JUNE
10
1960

PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

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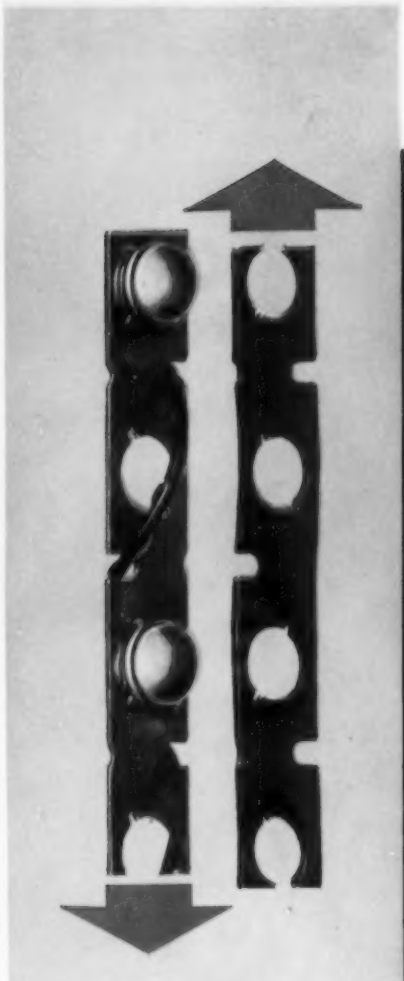

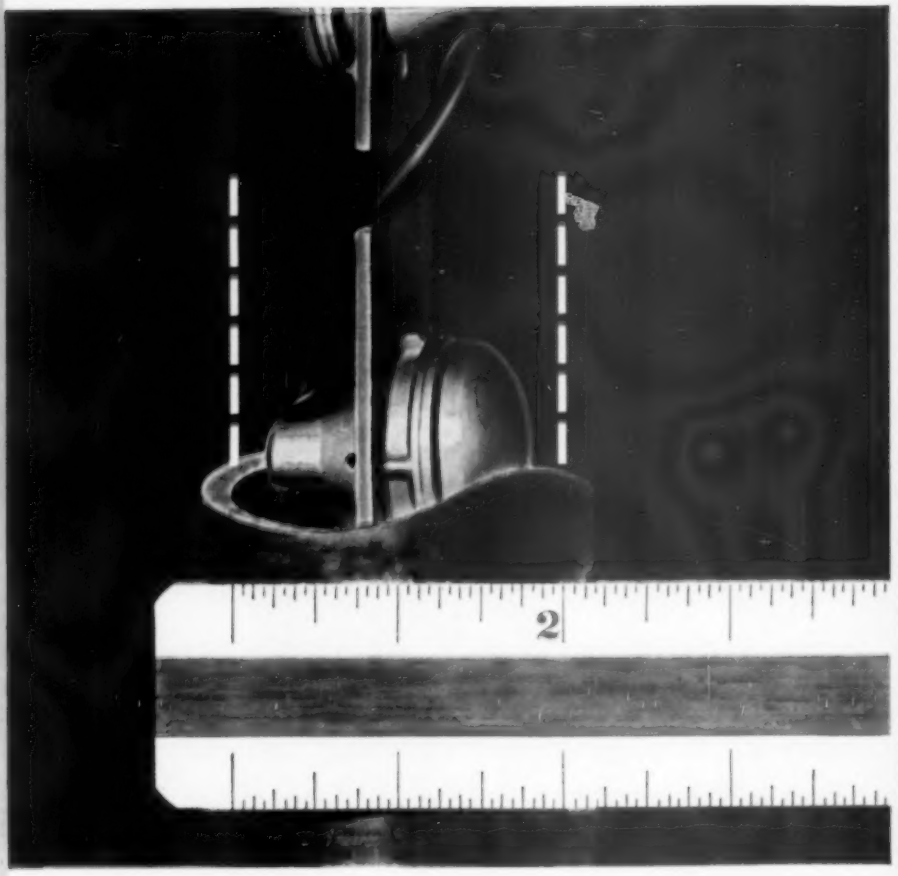

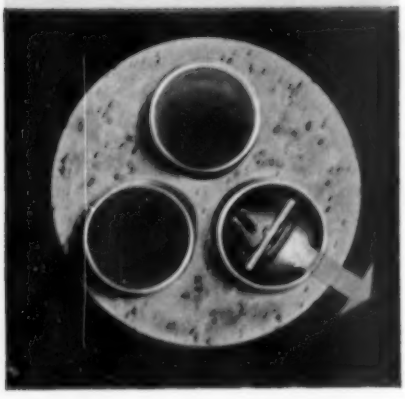

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DEPT/Opinions

Views That Make News . . .

"New geologists with a bachelor's degree, even those who rank high in their class, may find it necessary to begin in semiprofessional jobs or to obtain work outside the field of geology."

—JAMES P. MITCHELL
Secretary of Labor

"We company managers are not really foolish in all ways. I guess the kindest description of us would be to say that we are protectionists. We just don't like to give up position or gallonage to price cutters, so we join them."

—R. L. TOLLETT
President
Cosden Petroleum Corp.

"Despite the development of missiles and nuclear bombs, oil continues to be the first line of national defense. If the industry is to measure up to its glorious past and to the awesome responsibilities of today, it must close ranks and, through the National Petroleum Council, unite in common and dedicated purpose to demonstrate once again that it puts the national interest first."

—WALTER S. HALLANAN
Chairman
National Petroleum Council

"Any business that becomes considerably overexpanded must go through a cycle. Capital input will be restricted; management will become more conservative; investment funds will be less available; weaker units will retrench or fold up. Supply will come more in balance with demand; the industry will regain a forward momentum of earnings; and the upswing of a cycle will be well under way. I think we are already seeing signs of corrective processes at work. New drilling is at a lower level, and capital outlays are slowly declining. Some improvement in the management of supplies, inventories, and marketing is noted in some areas. I would not attempt to set a time as to when the industry will be back to a normal balance. It might be a year or two, or it could be longer."

—LEO D. WELCH
Chairman
Standard Oil Co. (N.J.)

"The next time you pick up a 3-lb. report and head for the president's office, stop a minute and ask yourself, 'Have I done everything I can to make the point or points in this report clear and easy to grasp?' If you have, he will be most appreciative. If not, go back to your best people and get the report reworked until the junior men in your group clearly understand its point."

—ALBERT L. NICKERSON
President
Socony Mobil Oil Co.

"When we see nothing but improvement behind us, why do we see only deterioration in front of us."

—GEORGE W. MCKINNEY, JR.
Assistant vice-president
Irving Trust Co.

"Take your stand on one side of the street or the other. If you believe yours is a quality business, anchor your actions on that principle—and refuse to be budged by fear, doubt, or what the other fellow's doing. Build up your stations as outlets for superior products and services that provide ever-increasing values to your customers. Create your merchandising program according to your own best concepts of public service. But have the courage to insist on merchandising your goods and services at a profit. Somehow (who can explain why?) a good many marketers today have clean lost sight of profit, and have substituted what I can only call a muttonheaded devotion to volume. Nothing could be more destructive to marketing progress."

—C. J. GUZZO
Vice-president, marketing
Gulf Oil Corp.

. . . and Letters

Dear Sir:

Your "Inside Slant" on "Consistency Would Help" [PW—May20-'60,p3] was right on the button. It's too bad the button wasn't wired to heavy voltage and attached to a few seats occupied by decision-makers in the oil business.

Trouble is, while "consistency certainly hasn't been a virtue," inconsistency has been made a virtue. This is a sign of the times. With this condition, inoculation rarely takes, but I hope you keep your needle sharp anyway.

LLOYD N. UNSELL
Director of information
Independent Petroleum Assn. of America

PETROLEUM WEEK *will publish reader comments each week. Address letters to LeRoy Menzing, Editor,* PETROLEUM WEEK, *330 W. 42nd St., New York 36, N. Y.*

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INSIDE *Slant*

HORRIBLE MEMORIES

It's surprising the number of horrible memories that are revived by the cleaning out of one's desk.

For example, take a look at this crude price posting for Jan. 19, 1933, in Oklahoma and Kansas:

GRAVITY	PRICE
Below 29	$0.28
29-29.9	.30
30-30.9	.32
31-31.9	.34
32-32.9	.36
33-33.9	.38
34-34.9	.40
35-35.9	.42
36-36.9	.44
37-37.9	.46
38-38.9	.48
39-39.9	.50
40 & above	.52

If that isn't enough of a shocker, on May 8, also in 1933, there was posted a flat price of 25¢ per bbl. for all gravities.

And if the desk cleaning hasn't depressed you enough, let's take a look at what the postings for 1931 revealed.

The price of crude was gradually whittled down, with a posting in July of only 10¢ per bbl. for 28-gravity. There was a 1¢ differential upward to 22¢ for 40-gravity and above.

And those postings were based on only 97% of tank tables, compared with today's 100%.

LeRoy Menzing
EDITOR

Good Wells Make Good News

June 10, 1960

Dowell engineers are reporting an unusually high ratio or successful fracturing treatments. Here are four recent examples:

- **Mobile County, Alabama** (Old Oil Well) This well was producing from both the upper Donovan from 10,829 to 10,945 feet and the lower Donovan from 11,382 to 11,394 feet. Each zone was fractured separately with Waterfrac using a total of 23,000 gallons gelled water and 80,000 pounds 20/40 sand. This was the first use of water as a frac fluid in this field. Injection was approximately 18 bpm at 4500 psi down 2⅜-inch tubing. Before treatment well made 19 bopd from upper zone; lower zone had been temporarily abandoned as non-productive. Two weeks after treatment, upper zone was making 120 bopd. Pump was moved to lower zone which produced 113 bopd after five-day test.

- **San Juan County, New Mexico** (New Gas Well) This well was completed into three sections of the Dakota. Each section was fractured separately. To keep costs as low as possible, Dowell used a new perforating and stage-fracturing technique: Abrasijet* was used to perforate and a retrievable bridge plug assembly was run below the tool. The frac fluid was fresh water with two pounds of sand per gallon. Slick Water additive was used to reduce friction. Injection for all stages was over 40 bpm at 2300 psi. First, the lower section was perforated and fractured with 50,000 pounds sand. Second, bridge plug was set above the lower section and the main bench was perforated and fractured with 100,000 pounds sand. Third, the bridge plug was released and reset above these perforations. Then the upper section was perforated and fractured with 100,000 pounds sand. All work was done without removing tubing from hole, saving over $4000. On test, well potentialled 13,000 mcfd and produced 5640 mcfd into the gathering line. This is at least 30 per cent better than any other well this company has in the field.

- **Ector County, West Texas** (New Oil Well) This well was completed through perforations into the San Andres at about 4390 feet. It made only a show of oil. Operator wanted an economical stimulation job. Using the Frac Guide* Dowell engineers designed this treatment: First, 1000 gallons BDA* (Breakdown Acid) were jetted against perforations. Then Sandfrac* was used. 10,000 gallons lease crude with F.L.A.* (Fluid Loss Additive) carried 20,000 pounds sand into formation. Injection was down annulus at 10 bpm. After treatment, well's rated potential was 700 bopd.

- **Grant County, Kansas** (Old Gas Well) Production from this well — completed in 1949 — had declined to 403 mcfd. The operator decided to fracture the upper part of the Hugoton since he believed most previous production had been from lower zones. A 6000-pound sand plug was used to fill up 165 feet. Then Riverfrac* was used. 94,000 gallons fresh water and 80,000 pounds sand were injected down casing at 66 bpm and 800 psi. Six months after treatment, deliverability had increased to 2253 mcfd.

For detailed information — or for prompt service — dial Dowell. Dowell services and products are offered from more than 150 offices and stations in the United States, Canada, Venezuela and Argentina. Dowell, Tulsa 1, Oklahoma.

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60-Second Summary / WHAT'S HAPPENING IN OIL

June 10, 1960

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The industry may have a clearer—or possibly more confused—picture soon of when price cuts are legal. Two cases, one before the Supreme Court involving Anheuser-Busch, and the other before the Federal Trade Commission involving Pure Oil, will have important meaning for marketers. . . . p. 12

•

Aluminum offshore platforms are winning acceptance in Lake Maracaibo. More than 80 aluminum units have been put up in the lake to help battle the extreme corrosion problem. . . . p. 20

•

Two pipeline companies and a railroad have teamed up to offer a joint rate to move crude. It will cost a flat 70¢ a bbl. to move crude from North Dakota and Montana to Minneapolis-St. Paul, or to Superior, Wis., and Wrenshall, Minn. . . . p. 41

•

Few oil men are happy with the new import allocations, though the government's actions were well received by the coal industry. Companies with small residual fuel quotas say they are being "legislated" out of business (page 48). All resid importers say a sharp hike in quotas is needed for the fourth quarter. . . . p. 9

•

Versatility is the key to the growing popularity of polyurethanes. By changing one or more ingredients, and controlling the reaction, it is possible to produce polyurethane in many forms, from a feather-light foam to a hard, tough elastomer. . . . p. 28

•

Canadians are debating the merits of proposals to export LPG to the U.S. Some question the wisdom of trying to enter the U.S. market in the first place. . . . p. 44

•

Development of the Ackman field is pumping new life into southwestern Nebraska. Drilling there is relatively quick and easy—and the economic picture is good. . . . p. 17

•

Mobil Oil Co. is sticking to its two-grade gasoline marketing system—for the time being. If conditions warrant, it may revise that policy after 1960. . . . p. 34

•

The D-3 reef in Alberta's Simonette area is showing considerable promise. Recoverable oil in the field is now estimated at 302,000 bbl. per 40 acres. . . . p. 18

•

Iraq isn't likely to be interested in current world proration proposals. This Middle East nation is still pushing for increased oil exports to help meet its revenue needs. . . . p. 36

Up to the Minute / SIGNIFICANT LATE NEWS

AT-A-GLANCE PETROLEUM WEEK Copyright

June 10, 1960

Three international oil companies have drawn the line with Cuban Dictator Castro at refining Soviet crude. With private firms already squeezed out of exploration, the three companies—Jersey Standard, Shell, and Texaco—have decided that if Castro wants to push them out of the country, he can do so now. In brief, their patience has reached its limit.

U.S. officials in Washington view the latest Cuban problem as diplomatic dynamite, which could have significant domestic political repercussions. So far the U.S. has taken no action against Castro that might hurt the Cuban economy. The unofficial hope has been that Castro might eventually hang himself on his political—and economic—rope.

The next move is Castro's, and he has three alternatives: (1) Under Cuba's free-wheeling revolutionary laws, he might "intervene" the plants —that is, take over management control while leaving profits and normal working operations intact; or (2) he could seize the properties (the valuation of which is estimated between $125-million and $150-million, including remittances due); or, most unlikely, (3) he might accept the companies' decisions and do nothing.

Moves by Castro against the two U.S. companies involved would risk repercussions on Cuba's sugar quota. The U.S. Sugar Act is up for renewal in the House, and the Administration has asked for broader authority to cut Cuba's quota. Agriculture Committee Chairman Harold Cooley (D., N. C.) is pressing for a year's extension without changing the complex formula, but some politicians are demanding economic sanctions as an answer to Castro's anti-U.S. policies.

•

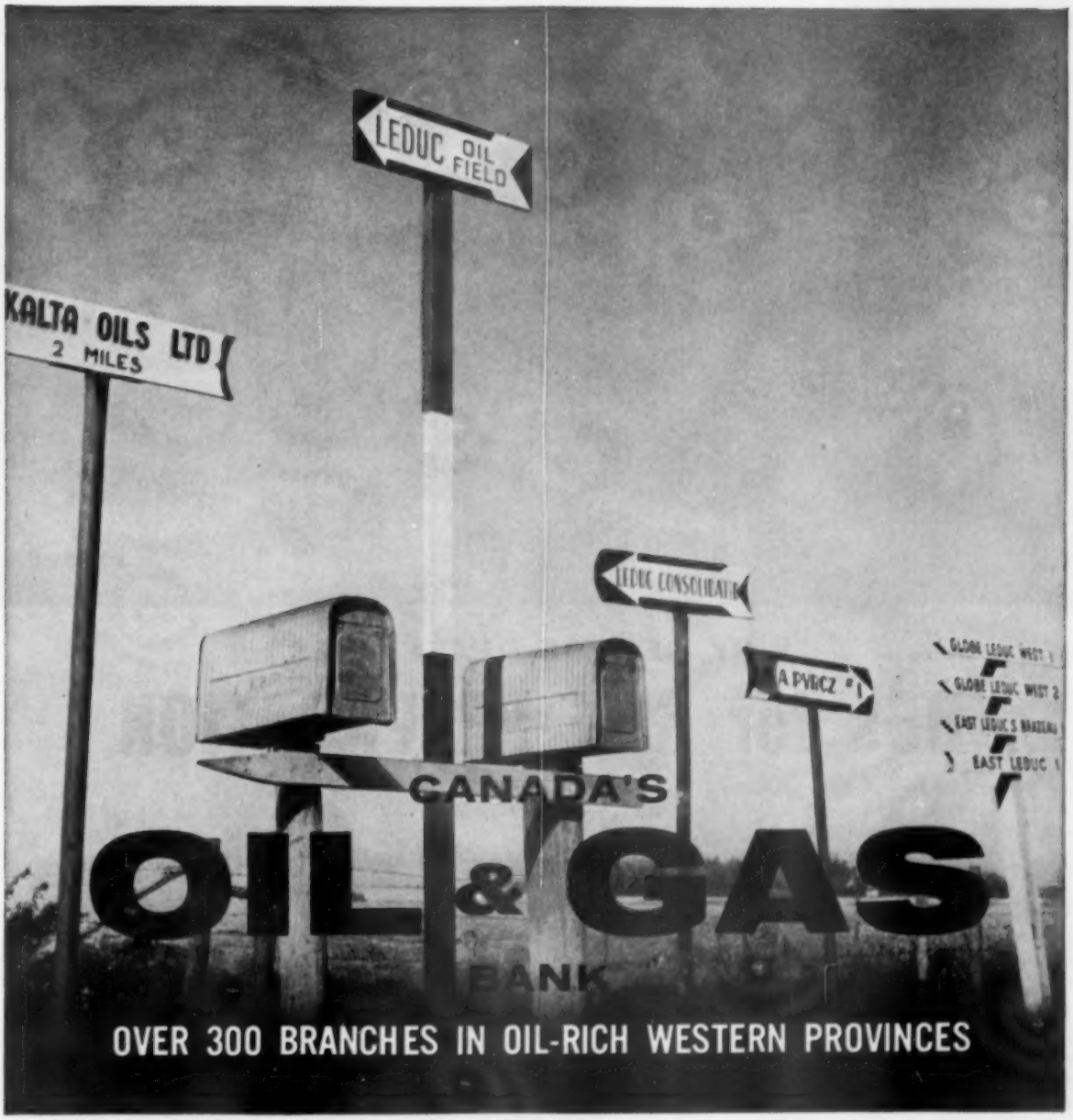
Louisiana apparently has decided to maintain its current allowable formula as the minimum for the rest of the year. That's the indication from this week's action to restrict future multiple completions to areas where multiple wells now exist. Commissioner Ashton J. Mouton said that such a limitation will allow July and August allowables "to be maintained" at the present 33% of the March, 1953, depth bracket.

•

Michigan's attorney general has asked for a federal investigation of possibly "collusive price fixing" in Detroit area gasoline prices. Tankwagon prices advanced 4.1¢ a gal. this week from a depressed position. "It seems curious," the state official said, "that whenever one of the gasoline companies sends up the price kite, the tail, made up of all the other companies, follows swiftly."

•

Hess Trading & Transport, a large East Coast fuel oil marketer, will expand its gasoline output substantially. Hess is revamping its 71,250 b/d Sewaren (N. J.) refinery, which now has only limited gasoline finishing capacity. It is adding a 25,000 b/d vacuum distillation unit, a 20,000 b/d fluid cat cracker, two 6,000 b/d UOP Merox sweetening units, and a 2,000 b/d alkylation plant. Completion is set for January.



Why has Canada's largest bank, the Royal, earned its reputation as Canada's "Oil and Gas Bank"? For one thing, it operates over 300 branches throughout the oil and gas rich Western provinces, each able to supply all the banking facilities you are likely to need. For another, a special Oil and Gas Department in Calgary, staffed by experienced "oil bankers," is exceptionally well organized to provide information and practical assistance to oil and gas men.

This department's Special Bulletin Service can be of great assistance to those interested in entering the industry as well as those already established. For an up-to-date list of Oil and Gas bulletins, covering regulations, tariffs, statistics, financing and other related topics, write The Royal Bank of Canada, Oil and Gas Department, 409 Eighth Ave. W., Calgary, Alta.

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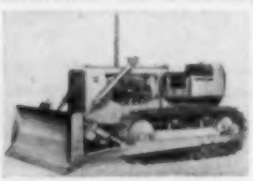
D6s for SITE PREPARATION

THIS is one of 60 sites recently prepared by George W. Pease for a large oil company. The location: Osage County, Oklahoma. The job at each site: leveling an area about 85 feet x 130 feet for drilling rig and equipment and digging a slush pit 70 feet square and 5 feet deep. Depending on conditions, it took the Cat D6 Tractor with No. 6S Bulldozer from one to three days to prepare a site.

Why did George Pease choose the D6? An important reason, he'll tell you—"It stands up better than competitive machines." His is no snap judgment, for he's a veteran with 16 years' experience in the business. Ask others like him, who make their living in the same kind of tough work, and you'll hear the same verdict on the D6.



NOW THE NEW D6 SERIES B

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NEW INTEGRAL HYDRAULIC SYSTEM—Under-the-hood mounting of tank, pump and valves permits convenient routing of hydraulic lines to bulldozer or implement cylinders, frees front and rear for other equipment.

NEW OPERATOR CONVENIENCE—An all-new cockpit has coordinated controls that make the tractor operate almost as if it knew what was needed next.

NEW 8-FOOT BULLDOZER BLADE—This shorter straight blade combines productive capacity with narrow width. No highway permit is required to move machine from job to job.

And that's not all. The new D6B also features dry-type air cleaner, hydraulic track adjusters (optional), lifetime lubricated track rollers, the oil clutch and forward-reverse lever. Get the full details from your Caterpillar Dealer. Ask him to *show* you how the new D6 can step up production on your job!

Caterpillar Tractor Co., General Offices, Peoria, Illinois, U.S.A.

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MODERN
HEAVY-DUTY MACHINES
FOR THE HARD WORK

Importers: Hike in Resid a Must

Total imports in 1960 are expected to average 1,808,887 b/d, just slightly under the peak set in 1959.

That's the indication now that the second-half allocations have been set for crude and light products, and third-quarter quotas have been set for residual fuel oil.

The expected total for the year includes both "quota" imports and exempt imports (table, page 10).

The indicated imports will run not quite 1% below 1959, the year when mandatory import controls became effective in mid-March.

The 1.8-million b/d average estimated for 1960 allows for a sharp rise in residual fuel oil imports in the fourth quarter.

The 249,999 b/d limitation imposed on residual imports in the third quarter is estimated by industry economists to be about 120,000 b/d below the expected requirements for resid during that period.

This estimate is based on a domestic demand forecast of 1,295,000 b/d of residual for the quarter starting July 1, a 10% gain over the third quarter of 1959. Such a large percentage gain is expected to result from normal business activity in the coming third quarter compared with unusually low activity in 1959 because of the steel strike.

The yield of residual from domestic refineries is expected to run about 850,000 b/d in the third quarter, and imports had been anticipated at about 370,000 b/d. Even at that level, a slight draw-down on residual stocks would have been required in the third quarter to meet demand. But with the lower level of imports in the third quarter, the draft on stocks will have to be heavy, the economists predict. The result will be, they say, that by Oct. 1 residual inventories east of the Rockies will be one-third below last Oct. 1, to a level of about 22-million bbl.

Some economists now estimate that residual fuel oil imports in the fourth quarter will have to average about 750,000 b/d if the oil industry is to supply its expected market.

Normally, stocks of residual fuel oil rise during the third quarter—the lowest demand period of the year—and decline during the fourth and first quarters.

Residual demand in the fourth quarter is now expected to jump to about 1.6-million b/d, nearly 400,000 b/d over the third quarter.

But with inventories expected to be down sharply by Oct. 1—possibly to the minimum required for tank bottoms and similar unavailable stocks—demand for the last quarter will have to be filled almost entirely from "current" refinery output and "current" imports.

Deducting anticipated domestic output from the expected demand leaves a need for a minimum import level of 750,000 b/d, according to petroleum economists.

But even with sharply higher residual allocations in the last three months of the year, a generally tight supply is predicted for the remainder of 1960, and possibly well into 1961.

One immediate effect, economists predict, will be some increases in prices, which some say could cost the industry markets in competition with coal and natural gas.

Allocations of crude and unfinished oils in the areas east of the Rockies in the second half of the year are a little below the first half, but 1.7% above the last half of 1959.

The 694,328 b/d quota set for the second half compares with 718,218 b/d in the first six months of the year, and with permissible imports of 682,707 b/d in the final six months of 1959.

The increase for the final six

Significant Sidelights

■ **The votes of the coal industry have greater influence in Washington than those of the producing segment of the oil industry. Coal industry officials and coal-state congressmen asked for—and received—a whopping cut in residual fuel oil imports for the next three months. But their counterparts in oil, after pleading to the same government official, Interior Secretary Seaton, got only a token cut in crude imports.**

The cut in residual fuel oil imports amounted to 50% for the third quarter. Coal men say they will seek similar limitations for the fourth quarter, a period of peak demand. Oil men calculate that in the third quarter alone they will be short 120,000 b/d of resid. It denies to the oil industry the equivalent of that much market in favor of a competing fuel —which by government decree becomes end-use control.

Now take a look at what Seaton did for oil. The Independent Petroleum Assn. of America, which had asked for a reduction in the basic ratio of crude imports to domestic production, was told: "A change in the basic ratio is out of the question at this time." The result is that crude imports East of the Rockies in the last half will be only 24,000 b/d below the first half, and 12,000 b/d higher than in the last half of 1959.

months of this year compared with last surprised many producers, in view of the sharp cutbacks in domestic oil production in recent months.

Domestic crude production now is running 6.1% below a year ago east of the Rockies, with Texas continuing to bear the burden of reductions that have been made.

The over-all allocated imports of crude, unfinished oils, and light products (other than resid) for the areas east of the Rockies are based on 9% of the total second-half demand estimated for the area by the Bureau of Mines. The Bureau's estimate is that demand in Districts I-IV will average 8,576,000 b/d in the July-December period.

That latest forecast is slightly less than the bureau predicted for the last half for the area at the start of the year.

The refinery runs formula for determining individual allocations east of the Rockies for the last half of this year will be almost the same as was used in the final six months of 1959.

Earlier, Interior Dept. officials had proposed a change in the formula, with the percentages ranging from 12.3% of runs up to 10,000 b/d downward to 4.1% of runs over 300,000 b/d (PW—May13'60,p15).

Actually, the formula will start at 11.8% of runs of up to 10,000 b/d, and scale down to 3.9% of all runs over 300,000 b/d. Allocations will be based on average throughput for the 12 months ended last Mar. 31.

On the West Coast, the runs formula for determining individual company allocations has been revised.

The ratios start at 45% for runs of less than 10,000 b/d, and scale down to 9.5% of runs over 200,000 b/d.

Those were the ratios proposed by Interior last month, and are considerably higher than the ratios assigned to West Coast refiners in the other periods of the mandatory import program.

The volume of imports that will be exempt from allocations in the last half is expected to be down slightly from the first six months of the year.

These include bonded residual fuel, and overland imports of crude from Canada.

East of the Rockies, bonded residual imports are expected to amount to about 70,000 b/d in the last half, compared with an average of around 80,000 b/d in the first half.

Exempt Canadian crude moving into the Upper Midwest and the Great Lakes area is expected to amount to about 74,000 b/d in the July-December period, compared with an average of 70,000 b/d in the first six months of the year.

Interior officials estimate that West Coast refiners will use about 51,000 b/d of exempt Canadian crude (almost all in the Pudget Sound area) in the last half of the year.

Imports Will Equal 18% of Supply in 1960

(Barrels daily)

	1959			1960		
	First Half†	Second Half	Full Year	First Half	Second Half	Full Year
EAST OF ROCKIES						
Crude and Unfinished	759,000	682,707	720,853	718,218	694,328	706,273
Light Products	221,000	76,631	148,155	76,631	76,634	76,633
Residual Fuel Oil	604,000	363,433	483,717	490,934	249,999*	495,467*
Total Allocated	**1,584,000**	**1,122,771**	**1,352,725**	**1,285,783**	**1,020,961**	**1,278,373**
Exempt Canadian Crude	——	57,000	29,500	70,000	74,000	72,000
Bonded Residual Fuel	100,000	107,000	103,500	80,000	70,000	75,000
Total East of Rockies	**1,684,000**	**1,286,771**	**1,484,725**	**1,435,783**	**1,164,961**	**1,425,373**
WEST COAST						
Crude and Unfinished	201,000	233,310	217,155	220,095	263,303	241,699
Residual, Light products	21,000	10,619	15,810	6,753	10,619	8,686
Total Allocated	**222,000**	**243,929**	**232,965**	**226,848**	**273,922**	**250,385**
Exempt Canadian Crude	——	50,000	25,000	49,000	51,000	50,000
Total West Coast	**222,000**	**293,929**	**257,965**	**275,848**	**324,922**	**300,385**
PUERTO RICO						
Crude and Unfinished	80,147	80,883	80,515	80,883	80,883	80,883
Residual Fuel Oil	2,968	2,140	2,554	2,140	1,644	1,892
Light Products	611	354	483	354	354	354
Total Puerto Rico	**83,726**	**83,377**	**83,552**	**83,377**	**82,881**	**83,129**
TOTAL U.S. IMPORTS	**1,989,726**	**1,664,077**	**1,826,242**	**1,795,008**	**1,572,764***	**1,808,887***
TOTAL U.S. SUPPLY	**9,850,000**	**9,457,000**	**9,713,000**	**9,785,000**	**10,026,000**	**9,906,000**

†Includes voluntary and mandatory control periods.

*The 249,999 b/d allocation is for the third quarter. Estimates are that an allocation of 750,000 b/d will be required in the fourth quarter to meet demand, which would make the last half average 500,000 b/d. The total U.S. allocation of all imports, plus exemptions for the last half would then average 1,822,764 b/d. The full-year totals assume the larger residual quota for the fourth quarter.

Here Are the

CRUDE AND UNFINISHED OIL ALLOCATIONS

(Barrels Daily)

DISTRICTS I-IV	Jul.-Dec., 1960	Old
Advance Refining	312	321
Allby Asphalt	343	292
Allied Materials	293	301
American Petrofina	3,930	4,497
Anchor Gasoline	119	.....
Anderson-Prichard	3,253	3,502
Anderson Refining	26	.....
Arkansas Louisiana	230	.....
Ashland Oil	12,254	13,275
Atlantic Refining	38,000	38,000
Atlas Processing	1,283	363
Bayou State Oil	117	93
Bell Oil & Gas	1,975	2,174
Berry Asphalt	301	358
Big West Oil	257	290
Bird & Son	641	.....
Bryson Pipeline	77	80
Cactus Petroleum	283	309
Calumet Refining	216	233
Century Refining	351	316
Champlin Oil	2,989	3,189
Cities Service	21,040	21,040
Clark Oil & Refining	3,292	3,649
Colorado Interstate	1,997	2,094
Continental Oil	14,142	15,436
Cooperative Refinery	3,736	4,109
Cosden Petroleum	4,086	4,530
Cracker Asphalt	133	141
Cross (Henry H.)	372	403
Crown Central	3,526	4,027
Danaho Refining	380	380
Delhi-Taylor—Dallas	3,350	3,616
Delhi-Taylor—Houston	829	1,070
Diamond Asphalt	84	.....
Dow Chemical	2,040	2,040
Eddy Refining	242	264
Elk Refining	513	552
El Paso Natural	2,139	2,157
Empire Petroleum	575	590
Empire State Oil	488	409
Evangeline Refining	119	175
Famariss Oil	165	184
Farmers Union	2,096	2,229
Frontier Refining	2,584	2,455
Gabriel Oil	1,895	1,895
Gladieux Oil	94	74
Great Western	237	227
Gulf Oil	71,990	71,990
Hess	7,420	7,420
Howell Refining	479	507
Hunt Oil	647	762
Husky Oil	699	778
Ida Gasoline	30	26
Illinois Farm Supply	522	595
Indiana Farm Bureau	1,404	1,565
Ingram Oil	2,650	2,650
Jarvis	137	173
Jet Fuel Refinery	59	58
Kendall Refining	513	540
Kerr-McGee	4,290	4,794
Laketon Asphalt	337	339
Leonard Refineries	2,744	3,058
Macmillan Petroleum	421	470
Metropolitan Petroleum	120	915
Mid-America Refining	266	291
Midland Cooperatives	1,448	1,598
Monarch Refining	268	279
Monsanto Chemical	3,259	3,491
Murphy Corp.	3,260	3,260
Naph-Sol Refining	856	777
National Cooperative	3,083	3,266
Northwestern Refining	8,710	8,710
Ohio Oil	8,943	10,229
Oriental Refining	421	469
Osceola Refining	190	225
Pennsylvania Refining	134	152
Petroflex Corp.	50	.....
Petroleum Refining	237	234

Company-by-Company Quotas

	Jul.-Dec., 1960	Old
Petroleum Specialties	862	926
Phillips	17,154	18,682
Plateau, Inc.	25	.....
Plymouth Oil	3,252	3,915
Pontiac Refining	5,895	6,364
Pure Oil	13,389	14,762
Quaker State	997	1,110
R. J. Oil	399	429
Rado Refining	59	46
Rock Island Refining	1,647	1,748
Seminole Asphalt	201	225
Shamrock Oil & Gas	2,422	2,590
Shell companies	23,105	25,132
Signal Oil & Gas	13,249	11,810
Sinclair Oil	40,120	40,120
Sioux Oil	577	576
Skelly Oil	4,839	5,380
Socony Mobil	43,300	43,300
Sonneborn Sons	168	154
South Hampton Co.	48	.....
South Penn Oil	1,151	1,247
Southland Co.	2,320	2,270
Southwestern Oil	3,476	3,842
Standard (Calif.)	43,070	43,070
Standard (Ind.)	30,745	35,120
Standard (N. J.)	46,480	46,499
Standard (Ohio)	11,723	12,707
Sun Oil	32,550	32,550
Sunray	12,453	13,826
Tennessee Gas	3,577	3,932
Texaco	35,120	35,120
Texas Asphalt	1,515	1,515
Texas City	3,043	3,642
Texas Eastern	1,834	1,975
Texas Gas	810	806
Texstar Corp.	200	216
Three Rivers Refinery	114	125
Tidewater Oil	22,100	22,100
Uinta Oil Refining	137	156
Union Oil	376	426
United Refining	2,270	2,270
Vickers Petroleum	1,593	1,716
Vulcan Asphalt	185	210
Warrior Asphalt	130	138
Waskom Natural	171	122
Western Natural	1,544	1,692
Westland Oil	193	215
Wickett Refining	237	328
Wolf's Head	227	247
Wyandotte Chemicals	285	308
DISTRICT V		
Caminol	2,240	2,114
Century Oil	1,830	1,326
Douglas Oil	7,157	5,678
Edgington Oil	3,306	2,604
Envoy Petroleum	960	906
Fletcher Oil	4,160	3,926
Golden Bear Oil	1,797	1,252
Golden Eagle	2,899	2,249
Lunday-Thagard Oil	457	.....
Macmillan Petroleum	2,892	1,940
Manespo Refining	1,120	1,057
Mohawk Petroleum	3,951	3,064
Newhall Refining	1,008	691
Oxnard Oil	273	.....
Palomar Oil	446	378
Powerine Oil	5,225	3,852
Richfield Oil	27,785	21,282
Shell companies	26,789	22,952
Signal Oil & Gas	5,040	4,757
Socal Oil	1,009	811
Socony Mobil	19,928	18,045
Standard (Calif.)	44,515	35,291
Sunland Refining	1,840	1,737
Texaco	18,123	14,572
Tidewater Oil	28,400	26,803
U.S. Oil	6,000	5,663
Union Oil	30,553	24,310
Wilshire Oil	13,600	12,835
PUERTO RICO		
Caribbean Refining	18,203	18,203
Commonwealth Oil	61,944	61,944
Caribe Nitrogen	736	736

RESIDUAL FUEL OIL

DISTRICTS I-IV	Jul.-Sep., 1960	Old
Ashland Oil	113	224
Atlantic Refining	198	391
Ballard Oil	2,139	4,224
Belcher Oil	1,152	2,275
Buckley Bros.	3,100	6,120
Canadian National	14	29
Central Petroleum	2,243	4,429
Colonial Oil Industries	2,731	5,392
Copeland Terminals	9	18
Gulf Oil	1,473	2,908
George Hall	259	512
Hess	28,392	56,060
Inland Terminal	10	20
Kaneb, George T.	19	38
Metropolitan Petroleum	15,505	30,617
U.S. MPSA	1,003	1,979
New England Petroleum	6,216	12,274
Pure Oil	294	580
Royal Petroleum	1,830	3,615
Shell companies	12,717	25,110
Signal Oil & Gas	5,187	10,242
Sinclair Oil	208	411
Socony Mobil	185	366
C. H. Sprague & Son	15,682	30,966
Standard (Calif.)	464	915
Standard (Ind.)	15,814	31,225
Standard (Ky.)	8,071	15,936
Standard (N. J.)	76,005	150,078
Steuart Petroleum	2,844	5,617
Texaco	40,313	79,601
Whale Oil	219	433
White Fuel	5,590	11,037
DISTRICT V		
U.S. MPSA	3,866	.....
PUERTO RICO		
U.S. MPSA	20	516
Porto Rico Iron Works	1,074	1,074
Standard (N. J.)	550	550

LIGHT PRODUCTS

DISTRICTS I-IV	Jul.-Dec., 1960	Old
Ballard Oil	1,165	1,165
Blanchet & Fils	3	3
Castrol Oils	2	2
Gulf Oil	2,723	2,723
Hess	3,234	3,234
Leonhardt Associates	0.20	0.20
Metropolitan Petroleum	5,100	5,100
U.S. MPSA	30,554	30,554
Pure Oil	5.50	5.50
Robinson Lumber	1.25	1.25
Royal Petroleum	1,476	1,476
Shell companies	9,812	9,812
Socony Mobil	25	25
Standard (Calif.)	7,284	7,284
Standard (N. J.)	13,590	13,590
Sun Oil	604	604
Texaco	1,052	1,052
Van Buren-Madawaska	3.32	.....
DISTRICT V		
Alaska Propane	35	35
Calor Gas	2.10	2.10
Fairbanks Plumbing	3.33	3.33
U.S. MPSA	3,876	3,876
Shell companies	193	193
Standard (Calif.)	576	576
Time Oil	2,068	2,068
PUERTO RICO		
U.S. MPSA	152	152
Shell companies	57	57
Standard (N.J.)	104	104
Tropical Gas	41	41

Big Gains Seen For Gas Heat

The gas industry is forecasting a 19% hike in the number of homes heating with gas by 1963, when it expects to serve 24.1-million customers. The biggest boost will be in California.

Californians are already the largest users of gas heat in the country, totaling an estimated 4,062,000 customers. The American Gas Assn., in its annual housheating survey, predicts that the state will add another 558,000 by the end of 1962.

Texas is currently the second largest gas-heating state, with an estimated 2,024,000 customers. But its growth is expected to be much slower, with 245,000 new gas heat installations forecast.

Two-thirds of the estimated 3.9-million new gas heat customers are slated to come from newly built homes, AGA says. Conversions from other fuels are expected to total about 1.3-million.

The north central states—Illinois, Indiana, Michigan, Ohio, and Wisconsin—will be the fastest growing region, volume-wise, adding nearly one-quarter of the new customers.

They are slated to add over 1-million new customers to account for a total of approximately 5.3-million customers. And the five states will continue as the leading gas home-heating area in the U.S.

The Pacific region, covering California, Oregon, and Washington, will provide the second best increase—an estimated 641,000 additions for a total of 4,822,000 customers. AGA forecasts that 90% of these installations will be in new homes and notes that the recent arrival of natural gas in the Pacific Northwest is stimulating conversions from other fuels.

The number of home-heating customers climbed 6% in 1959 to an all-time high of 20.2-million.

AGA says that 1,159,000 of these heating customers were added by gas utility companies last year.

The AGA survey points out that 66.7% of the industry's residential customers heat with gas, up from 64.9% a year earlier. This figure represents 81.2% of the potential attainable saturation of housheating among existing gas customers.

The survey was based on information submitted by 356 companies serving 28.3-million residential gas customers throughout the nation, as of Nov. 30, 1959.

Rulings Due on Legality of Price Cuts

Two cases in Washington may give oil companies more clarification—or perhaps more confusion—on whether they can reduce gasoline prices in one area without similar cuts in all areas where they market.

With some legal ifs, ands, and buts, that's the issue in two cases that are about to be applied to the oil industry. One is the Pure Oil Co. Birmingham (Ala.) case, now in a second round of hearings before a Federal Trade Commission examiner; the other is a beer case involving Anheuser-Busch, on which the Supreme Court is expected to rule before it closes down for its summer recess.

Both cases involve price cuts that "discriminate in price between different purchasers . . . where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly."

In the Pure Oil case, hearings this week and next week before an FTC examiner are taking a new look at an earlier examiner's ruling, which found the company guilty of cutting prices in Birmingham to drive out private-brand competitors, and ordered it to "proportionately reduce prices everywhere" if it wants to cut prices at all (PW—Feb.27'59,p10).

The present hearings are being held at the direction of the full commission. After considering Pure's appeal from the initial decision, the commission ordered that further evidence be taken on whether Pure cut its prices in other areas in which the company markets.

The arguments by Pure Oil Co. in its price cutting case before the Federal Trade Commission are that its reductions were defensive.

Kenneth B. Dake, of Pure's marketing department, this week took the stand to support defense evidence showing that Pure's share of the Birmingham market had been "going down-down-down."

Defense Attorney William Simon asserted that, far from driving out competitors, Pure's pricing was defensive—that Pure lost gallonage during one price flurry in 1955.

Following conclusion of the present hearing, Examiner Robert L. Piper, who ruled against Pure previously, will make another decision, which Pure or FTC attorneys prosecuting the case can appeal to the full commission.

The Pure case differs in some respects—but is similar in others—from a case before the Supreme Court on beer pricing by Anheuser-Busch.

Pure's actions in Birmingham gave its 120 dealers in the city and Jefferson County an opportunity to post prices just 1¢ a gal. higher than prices of private branders. The plan was offered to all dealers, but more than 75% elected not to accept the offer.

The situation in the beer case began with a price increase across the country by makers of nationally advertised beers. It had the general effect of increasing the spread between the price of national beers and that of local, or regional, beers which were in competition with Anheuser and other national beer sellers.

In St. Louis, however, Anheuser did not increase its price, and its differential over local beers remained at 58¢ a case as before.

Evidence indicates that Anheuser sales were doing well in St. Louis, while its sales were falling off nationally. Later, Anheuser lowered its prices in St. Louis to match exactly the price of regional beers, and its sales tripled.

This is the situation on which FTC brought its case. Its decision—upset by an appeals court—was based on the ground that Anheuser's price cut injured its competitors in the one local area.

This is precisely FTC's legal basis for prosecuting the Pure Oil case.

The commission's ruling against Anheuser found the company guilty of violating the same section of the Robinson-Patman Act as was charged against Pure.

Soviet Gasoline Imports Stir Canadians

Strong words and bitter criticism echoed throughout Canada this week in the wake of a report that "some" distributors were seeking authority to import gasoline from Russia.

The distributors were not identified, but one was believed to be a big independent jobber in the Quebec-Ontario area.

The amount of gasoline was said to be 60-million gal., at a cost of 15¢ per gal. This would place the over-all value at $9-million.

Among those who protested publicly were Alberta Premier E. C. Manning and the Canadian Petroleum Assn.

Manning, commenting on the report from Ottawa, where details of the agreement are being worked out, declared it would be a "short-sighted and ill-advised policy" on the part of the federal government to allow such sales.

CPA's general manager, John W. Proctor, wired Ottawa that the association membership "strongly opposes any trade policy" that would involve imports of Soviet crude or products.

His telegram to Prime Minister John Diefenbaker bluntly charged that such shipments were part of an "apparent official Russian economic warfare policy."

Imports of Russian gasoline, he went on, would further disrupt the Canadian market, and perhaps reduce Canada's hopes of increasing its exports to the U.S.

R. A. Brown, Jr., president of Home Oil Co., Calgary, said that "any importation" of crude or products from "any source . . . is not in the best interests of Canadian producers."

From a Western Canada producers' viewpoint, he said, it is difficult to differentiate between Russian products and those of Venezuela, Saudi Arabia, or any other foreign nation.

The reported agreement, he argued, emphasizes anew the "urgent need for a national oil policy."

The Ottawa report said government trade men were anxious to promote the deal, on behalf of the new Canadian-Russian trade agreement.

This trade agreement provides that Russia will spend $2 in Canada for every $1 worth of Soviet goods that are imported.

Among the problems facing the government, it was indicated, is the size of the tariff to be imposed on the Soviet gasoline.

The 15¢-per-gal. price is believed to be substantially cheaper than the jobber's price from Canadian refineries. Thus, government officials are said to be seeking a duty rate that would be "fair" to domestic suppliers.

Gas Is Now Top Refinery Fuel

Natural gas became the chief fuel used in the U.S. refineries last year, replacing refinery gas.

It supplied 38% of all fuel used in 1959, up from 36.2% in 1958, and 32.2% in 1957. Ten years ago, natural gas supplied 32.4% of the total.

Refinery gas, on the other hand, dropped to 36.9% last year, from 38% in 1958, and 46.8% in 1957. Ten years ago, it supplied 39.6%.

This reflected the growing amount of enriched refinery gases being diverted to more valuable uses—primarily as raw materials for petrochemicals.

The steady increase in coking units has greatly reduced the amount of fuel oil available as a refinery fuel.

In 1949, resid accounted for 20.5% of all fuel being used by refineries. In 1957, it accounted for 11.2%, and last year 12.7%.

However, there has been a resultant upswing in the use of petroleum coke. It climbed from 2.8% of the total in 1949 to 5.5% in 1957 and 7.8% in 1959.

Taking fuel oil and petroleum coke together, the 1949 and 1959 figures are not widely different. Last year, they accounted for 20.5% of all fuel used. Ten years ago, the two supplied 23.3%.

Purchased electricity and steam showed small gains as refinery fuel.

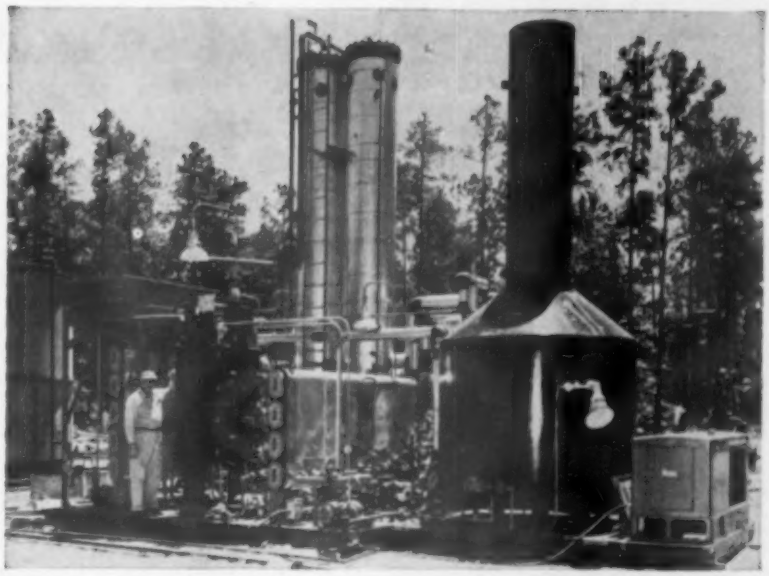
Over the ten-year period, purchased electricity climbed from supplying 0.8% of all fuels used to 1.5% last year. Purchased steam increased from 0.6% in 1949 to 1.0% in 1959.

The total amount of natural gas and refinery gas used climbed last year—up 10% and 4% respectively from 1958.

Some 752.2-billion cu. ft. of natural gas was used in 1959, compared with 681.3-billion in 1958. Some 743-billion cu. ft. of refinery gas was used, compared with 715.2-billion in 1958.

The amount of petroleum coke used climbed to 5,354,000 short tons from 4,498,000 in 1958, while the amount of fuel oil used dropped from 43.7-million bbl. in 1958 to about 41.9-million in 1959.

More than half of the natural gas was used by refineries in the Gulf Coast area of Texas and Louisiana. Refineries there burned 480-billion cu. ft. of natural gas last year, compared to only 209-billion cu. ft. of refinery gas.



Portable Topping Units Catch On

Portable topping units are starting to catch on. Latest sign: Tennessee Gas Transmission Co. is shipping a "dual-purpose," skid-mounted unit to southern Argentina.

This unit (above), which left Houston last week, will not only provide the company with fuel, but it will also be used to determine the refining qualities of the crude the company is recovering.

TGT says its subsidiary, Tennessee Argentina, S.A.—which owns the portable unit—has a "terrible" logistics problem in getting fuel down to its remote Argentine site in Tierra del Fuego.

The 200 b/d thermal unit will help solve the problem by converting lease crude to straight run gasoline and diesel oil needed for the company's trucks and crawler tractors. The diesel oil may also be used to power a rig.

The gas-fired, air-cooled plant is completely self-sufficient. It carries its own generators to power its electrically driven pumps.

The 15-ton unit is mounted on four skids. The heater is mounted on an 8 x 8-ft. skid, and the generator on a 4 x 8-ft. skid. The other two skids are 8 x 13 ft., and carry the primary and secondary towers. Both towers are 24-in. in diameter and 20-ft. tall.

Other equipment includes a verticle surge and flash drum, and a reflex drum, both 24 in. wide by 6 ft. in length. There is an air-cooled gas condensor, three sets of G-Fin exchangers, six centrifugal pumps, and one positive displacement pump.

Prime contractor for the unit was Williams Bros., Tulsa. Design work was sub-contracted to Litwin Engineering Co. of Wichita, Kan., with fabrication done by Belmas Co., Houston.

The unit was field tested for several days in East Texas, on a Tennessee Oil & Gas Co. lease. Crew members for the test run were supplied by Process Operators, Inc., also of Houston.

When the plant arrives in Argentina, it will be trucked to location from the seacoast.

Access to Tierra del Fuego is by sea or air transport only. Shipments are hampered by severe storms during the winter months of June, July, and August. And it is a probability that the ship carrying the unit will be the last to put in at Tierra del Fuego for the duration of the winter season.

Portable topping units and refineries are not a novelty. The Lummus Co. built a 1,000 b/d unit several years ago for experiments by the U.S. Navy (PW—Aug.21'59,p37). And a unit prefabricated by M. W. Kellogg Co. is included in the big four-company program to produce oil from the Athabasca tar sands (PW—Jan.15'60,p9).

In addition, another company, operating in North Africa, is reportedly considering use of a similar topping unit for its operations there.

Portable units have been regarded as a "happy solution" for oil producers in Africa or South America who must import fuel at high cost and under difficult conditions.

LOOSE SANDS?

SANDBAN
SCREEN

Sandban* screen is a new tool for controlling sand production. Sandban screen consists of a slotted aluminum screen, a smaller aluminum or steel screen inside and a permeable network of plastic-coated walnut shells between the screens. Sandban screen is easy to use—and economical. Available sizes: 4-inch O.D. with 1½-inch steel screen inside; 5⅝-inch O.D. with either 2⅞-inch steel screen or 2-inch aluminum screen inside. Other sizes made to order. Ask a Dowell engineer about Sandban screen.

*Dowell Trademark

Products for the oil industry

DOWELL

DIVISION OF THE DOW CHEMICAL COMPANY

DIAL DOWELL

What's New / IN THE INDUSTRY

Shell Oil Co. will build a natural gasoline and propane recovery plant on three pile-supported platforms in the marshlands at the mouth of the Mississippi River.

The installation is to be located on a six-acre tract at Shell's Southwest Pass central facilities.

Processing equipment will be placed on one concrete platform, generators on a second, and a direct-fired heater on the third.

Initial capacity will be 75-million to 80-million cf/d of gas, but plans include an expansion program that could double this, Shell says.

Using a process of low refrigeration and absorption, the unit is expected to recover 725 b/d of natural gasoline and 400 b/d propane.

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Posted prices for some Canadian crudes went up 5¢ a bbl. in Saskatchewan and down 13¢ a bbl. in Alberta last week.

Great Northern Oil Purchasing Co. advanced the price of several Saskatchewan crudes June 1.

British-American Oil Co., effective the same date, trimmed 13¢ per bbl. from the price it will pay for three Alberta crudes.

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API has published an Annotated Bibliography listing 50 technical papers and publications arising from its sponsored research on air pollution.

It is being distributed to federal, state, and municipal officials, librarians of colleges and universities, and to others interested in the air pollution problem.

Over the past 10 years, API has spent $1.3-million on smog research programs.

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Rhode Island voters have authorized the largest roadbuilding program in the state's history.

The cost to taxpayers, after all federal reimbursements are made, will be about $40-million.

Four administration proposals were approved by the voters by a three-to-one margin last week.

Three of the proposals dealt with an expanded highway system, and the fourth increased the mortgage guarantee authority of the State Industrial Building Authority.

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Only Gov. Jimmie Davis' signature is necessary to validate a Louisiana legislative measure which imposes until June 30, 1964, a severance tax of 2.3¢ per Mcf. on natural gas.

The bill spells out many exemptions for the producer.

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The chairman of the Federal Power Commission came out this week in favor of continued regulation of natural gas producers, but not strictly utility-type rate-base control.

Jerome K. Kuykendall told the Mountain Pacific States Conference of Public Service Commissioners that he favored legislation that would permit FPC to receive producer cost evidence, without being compelled to take it. Kuykendall said he would prefer a method of regulation by which the "proposed rate of each producer can be related to some more general standard" than inflexible rate-base evidence.

He said that he is opposed to the bill sponsored by Rep. Oren Harris (D., Ark.) insofar as it prohibits any consideration of cost data.

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The public importance of the issues involved was stressed this week by Gulf Oil Corp. in appealing its test suit on residual fuel allocations.

Gulf asked the U.S. Court of Appeals for the District of Columbia to reverse the ruling that was handed down by Federal District Judge Joseph McGarraghy two weeks ago. (PW—May27'60,p15).

The brief contends that the issues merit a full hearing because the suit raises, for the first time, serious questions concerning the validity of Oil Import Regulation No. 1.

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A court fight over the Kansas Corporation Commission order that shut in more than 500 wells in Sumner and Sedgwick counties is in the making.

Derby Refining Co., of Wichita, principal buyer in the area, says it will appeal the order to the Sedgwick County state court.

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
June 10, 1960

Oil men who want to have a say in writing the political platforms have time to do so before the presidential conventions convene in July. The important dates: The Democratic platform committee meets July 5 in Los Angeles; the Republican platform committee meets July 18 in Chicago. (Those dates are one week before the nominating conventions begin.)

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Platforms are general statements of party promises, to be sure. But language that goes into planks on highway financing, taxes, tariffs and imports, gas regulation, and the like, make for solidifying the backing of the candidates. (Recall that Texas Gov. Allen Shivers demanded more on offshore oil policy than the Democratic platform offered in 1952, and when Candidate Adlai Stevenson declined to comply, Shivers put his weight behind moving Texas over to Eisenhower in November.)

The big man in the Democratic Party on the platform will be Rep. Chester Bowles, of Connecticut. He will have one committeeman and one committeewoman from each state on his resolutions committee. Ideas for platform language can be sent to your state man or woman ahead of time, and requests for consideration can be made, too.

Charles Percy, chairman of Bell & Howell Co., heads the GOP group. Each state will be represented on the committee. But the big man on industry matters will be Interior Secretary Fred A. Seaton. He is the Administration spokesman on imports, etc., and is a Nixon intimate.

Tariffs and imports may become a big issue of disagreement between Republicans and Democrats. In the past, the GOP has favored protection more vigorously than have Democrats. But for 1960, Percy is a freer-trade man; and Democrats, particularly from the more industrialized South, are switching over to a tougher tariff and imports policy.

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A long-range plan for water development will be one of the large items of business to confront the 87th Congress next year. Sen. Robert S. Kerr's Select Senate Committee on Water Resources goes out of business next Jan. 31. Right now, it is in the process of finishing a year of intensive study. Between now and next January, it will come up with a program.

Industrial water certainly will figure big in this. And the chemical and refining industries are among the biggest users of industrial water.

•

The Federal Power Commission staff insists that its disputed interim-order procedure will result in final rate determinations. Staff Counsel Luke R. Lamb has assured Panhandle Eastern Pipe Line Co. that he wants a final FPC ruling on chief issues slated for trial in the first phase of the pipeline's $8.6-million rate increase case.

This case is a guinea pig for the new procedure, proposed as a time-saving device by the staff. Issues that don't require field investigation, the staff says, can be decided quickly by FPC, leaving issues requiring investigation for later hearing.

Panhandle Eastern is fearful the staff would attempt to retry the first-phase issues in the later hearing if the commission's first ruling didn't suit the staff.

Baker's New Snap-Set Duals

—the packers that are bringing single-zone control and simplicity to dual completions

A Baker dual-string completion approaches the control and simplicity (and the flexibility) of a single-zone completion. What makes this possible? Mainly the development of better upper retrievable packers—Baker's new Snap-Set Dual Packers. Operators all across the country are commenting on their impressive performance.

What makes a good dual-string packer? Several things, starting with the ability to (a) set and unset readily and repeatedly; (b) pack off and retrieve easily; (c) hold a dependable packoff even when pressures and temperatures are high.

Do Baker's new dual packers do these things? They do. This is easy to understand when you consider Baker's vast experience with high performance retrievable squeeze packers. The Baker Full-Bore Cementer, for instance, has seen action in thousands of successful high pressure cementing, frac, and testing operations. This squeeze packer experience has made important contributions to the design of these new dual production packers.

That's only a brief look at the story of these remarkable packers. A few more of the interesting facts are spelled out by the pictures and text below. For a complete fill-in on Baker snap-set duals and the hookups they're used in, consult Baker's field staffs and send for literature.

FACTS ON PLANNING DUAL-STRING COMPLETIONS

Baker field staffs have all the latest facts and figures on Baker's intensive continuing study of dual-string completions. They will welcome your inquiries. We will also be glad to send you the latest literature. Please write Baker Oil Tools, Inc., P.O. Box 2274, Terminal Annex, Los Angeles 54, California.

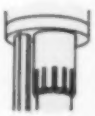
TWO BASIC MODELS. Model J (Product 756-J) is long-string set. Model K (Product 756-K) is short-string set. Both come with or without hold-down buttons (double or single grip). The pictures show single-grip Model J.

WHAT MAKES A GOOD DUAL PACKER?

The text above tells some of the things that are important. Here are a few more of the facts, starting with big unrestricted bores. Big bores are important because they permit you to run instruments and workover tools. These are probably the largest bores it's possible to design into a dual packer. For instance, a Baker dual packer for 7" casing is full-opening for two strings of 2⅜" tubing.

POSITIVE PACKOFF AND RELEASE

This three-element packing element design achieves a positive and lasting packoff with minimum set-down weight. It also simplifies release when you want to reposition or retrieve. What makes this possible is that the design prevents packing element extrusion without using the conventional metallic back-up rings that sometimes stick to the casing and defeat retrievability.

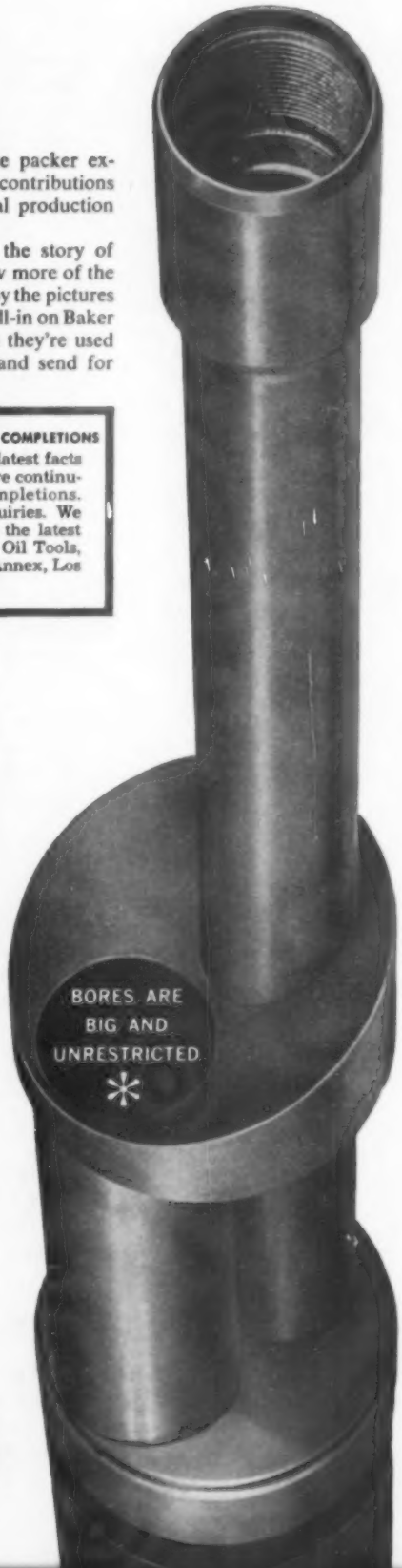


WHY SNAP-SETTING IS IMPORTANT

This simple snap-latch is what makes a Baker dual packer so easy to set and unset repeatedly. There are no one-shot shear pins. There's no ball dropping, no pressuring, no rotation. Just set down minimum weight to set packer, and pick up to release. This simplifies spacing out and enables you to test packers before displacement.

YOU CAN DISPLACE WHILE FLANGED UP

Using a side door completion valve, or sleeve valve, or other method, you can displace mud and wash in both zones with well head flanged up and under complete control.



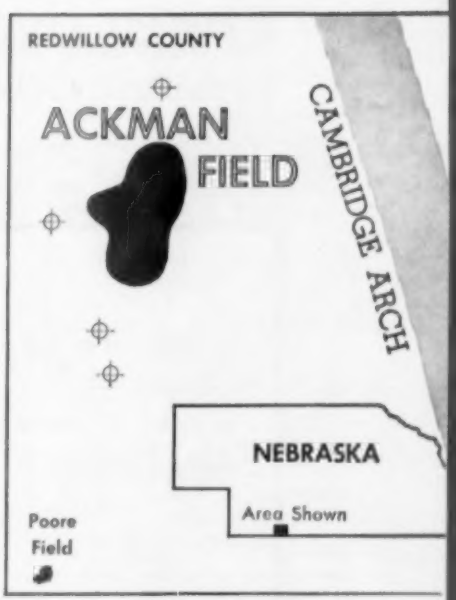
BAKER

SNAP-SET DUAL PACKERS

BAKER OIL TOOLS, INC. HOUSTON • LOS ANGELES • NEW YORK

Ackman Field Adds Spark To Southwest Nebraska

Reasons: Growing production, good economics, and relatively quick and easy drilling.



The development of Ackman field, in sparsely drilled Redwillow County, is lending new emphasis to southwestern Nebraska's Pennsylvanian play.

Prior to Ackman's discovery last fall, Pennsylvanian production in this part of the state was limited to four areas of Hitchcock and Redwillow Counties.

Of these, Barger pool (two wells) and Poore pool (one well) were in Redwillow County. Poore is about 10 mi. southwest of Ackman.

The promise at Ackman is seen as equaling the significance of Hitchcock County's Reiher-Frakes-Burr Oak complex, recently designated Reiher (Pennsylvanian) field. This field, which has 19 producing wells, is 25 mi. southwest of Ackman, which at last report had 12 producing wells and several holes being drilled.

Ackman field was discovered last November by Frontier Refining No. 1 Reiners, section 14-2n-28w, which was completed on pump for 122 b/d of oil and 6½% bs&w, through perforations at 3,273-78 ft. and 3,307-10 ft. in the Lansing-Kansas City formation.

The productive limits of the field haven't been defined.

The field now is about 2 mi. long in a north-south direction, and 1 to 1½ mi. wide. Dry holes have been drilled 1¼ mi. north of production, 1½ mi. south, 1 mi. west, and 3½ mi. east.

But the field isn't considered closed, since the nearest dry hole to the northwest is about 3 mi. and no holes have been drilled within 10 mi. to the southeast.

The relatively bright economic picture at Ackman is a definite factor in the build-up of interest in the area.

Production from the field is trucked either to Colby or Phillipsburg, Kan., where it enters pipelines for movement eastward.

The posted price is $2.66 per bbl., but a 47¢-per-bbl. trucking charge leaves a net wellhead price of $2.19 per bbl.

Flooding is expected to be undertaken as soon as the field limits are delineated, with both primary and secondary reserves being recovered simultaneously.

Considering this type of operation, it's estimated that the average ultimate production cost of Ackman oil will amount to about 60¢ per bbl.

This general area of Redwillow County was further enhanced recently by two apparent discoveries about 7 mi. east of Ackman field.

Burch Drilling Co. No. 1 Nokes, section 13-2n-27w, recovered 1,146 ft. of oil and 240 ft. of muddy oil on two-hour drillstem test at 3,248-3,302 ft. (PW—Jun.3'60,p39).

And about 4 mi. north, Murfin Drilling at last report was preparing to attempt completion of No. 1 Barth, section 25-3n-27w, after recovering 305 ft. of oil and 120 ft. of mud-cut oil on drillstem test at 3,395-3,425 in the Reagan (Cambrian).

Completion of this test would be the first Cambrian production in western Nebraska.

Drilling in the Ackman area is relatively quick and easy.

About one week is required from spud-in to setting of casing, with another three days for completion.

Total cost for a producing well runs to about $40,000, with the cost of a dry hole ranging from about $13,000 to $15,000.

Lost circulation in some Dakota zones is the only drilling difficulty characteristic to the area.

The Pennsylvanian production is from the Oread and two zones in the Lansing-Kansas City.

Oread oil is 29-gravity. Lansing-Kansas City oil is 31-gravity.

The average well depth is in the neighborhood of 3,300 ft. Completion figures so far range from 264 b/d to 102 b/d. The average water cut is less than 5%.

Proved acreage so far amounts to 160 acres for the Oread, 360 acres for the "B" zone of Lansing-Kansas City, and 680 acres for the "C" zone of the Lansing-Kansas City.

The three pay zones at Ackman are fossiliferous limestone. The Oread shows a matrix type porosity, while that in the Lansing-Kansas City is vugular and fractured.

Here are the statistics on the three formations:

- Oread—average porosity 18%, average permeability 180 millidarcys, average oil saturation 17%, average water saturation 60%, and average pay thickness 4 ft.
- "B" zone, Lansing-Kansas City—average porosity 8%, average permeability 49 millidarcys, average oil saturation 25%, average water saturation 48%, and average pay thickness 5 ft.
- "C" zone—average porosity 15%, average permeability 30 millidarcys, average oil saturation 17%, average water saturation 54%, and average pay thickness 11 ft.

Water is believed to be the drive in the field.

Reservoir control is believed to be related to structure in the case of the Oread, and to be stratigraphic in the Lansing-Kansas City.

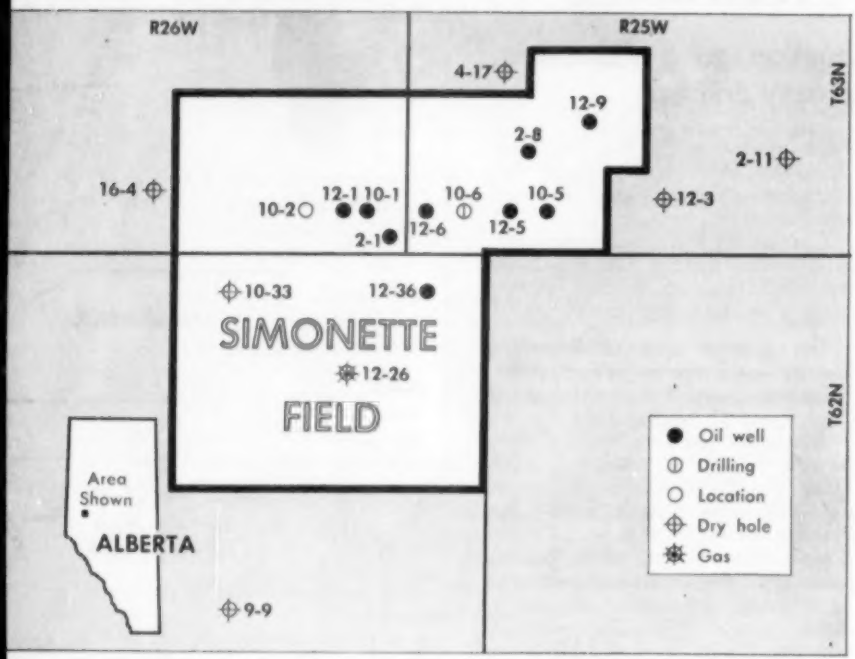
Ackman field is believed to be about 10 or 12 mi. west of the crest of the Cambridge Arch.

The area west of the arch is characterized by hard-to-discover granite knobs buried in an unpredictable pattern.

There is an erosional unconformity at the base of the Pennsylvanian or late Mississippian through much of the area. Thus, the Cambrian is within areas of pre-Cambrian depression between the knobs.

Simonette: Not So Grudging Any More

The frustrating D-3 reef in this Alberta area shows promise of becoming a sizeable reservoir.



Operators appear to be unravelling the tangled geology of the D-3 reef in Alberta's Simonette area. A full-sized field now appears to be in the making.

Simonette, often described as the most interesting D-3 reef hunt in the province, was discovered in 1958 by Shell Oil of Canada.

Ever since, operators have been kept guessing by the sudden and marked shifts from thick to thin Devonian reef pay sections.

Recent developments, however, point toward a field of considerable reserves.

A pipeline outlet for the field is scheduled to start operation this month.

Peace River Oil Pipe Line, Ltd., is nearing completion on a 36.7-mi., 8⅝-in. extension to tie the field into its system.

The extension, which is costing around $1¼-million, will have a capacity of 24,000 b/d.

Production so far has been trucked about 90 mi. to the Sturgeon Lake terminal of the Peace River system.

Late last month, the thickest pay section so far in the field was found in a well drilled by Shell Oil.

This well, Shell Simonette No. 12-1 lsd 12-1-63-26w5, is reported to have found 230 ft. of net pay in going to total depth of 11,590 ft.

Shell, the biggest and most active operator in the field, has drilled nine producing wells to depths of around 12,000 ft.

Recoverable oil in the field is estimated at 302,000 bbl. per 40 acres on the basis of a "conservative" recovery efficiency of 50%.

A recovery efficiency of 57% was calculated by Shell in an MPR submission to the Conservation Board in March.

The May allowable for Simonette was 114 b/d per well, second highest in the province. Part of the South D-3 pool at Golden Spike had an allowable of 185 b/d per well.

At Shell's request, 160-acre spacing has been established for an interim period of two years, for reservoir appraisal, for all wells drilled in an area mapped by Shell.

This area (map, above) is quite a bit larger than the 8½ sections included in the board's outline of the field.

In its spacing request, Shell said:

"Since the time required to drill and complete each well is considerable, and access to this area is restricted at times because of inclement weather, we believe that a two-year interim period will be required to gather sufficient data and to evaluate reservoir and fluid characteristics.

"In order to minimize the possibility of overdrilling, we believe initial development should be on 160-acre spacing, while establishing average reservoir characteristics and performance."

Initial potential tests of Simonette wells show a wide range.

Data on the first four wells completed in the field shows that initial potential tests have ranged from 1,272 b/d to 162 b/d. Bs&w content has ranged from a trace in most cases to 43% in one well.

Gravity of the oil averages around 49. Gas-oil ratio has ranged from 2,055-1 to 2,900-1. Flowing tophole pressure has ranged from 1,160 psi. to 2,325 psi.

Net pay thickness in the field also shows "considerable fluctuation."

The first five completions had an average net pay of around 100 ft. The next two completions—Shell Nos. 2-8 and 2-1—lowered this average somewhat with net pay of 33 ft. and 57 ft. respectively.

Shell Nos. 10-1, 10-5, and 12-5 are recorded as having gross reef section above water level of 202 ft., 21 ft., and 100 ft. respectively. Shell No. 12-6 had a net pay of 147 ft.

Simonette is shaping up as a narrow field, about 3½ mi. long and 1½ mi. wide, though the northern and western limits haven't been established.

The west portion of the Simonette area is regarded as a possibility for a new pool or pools.

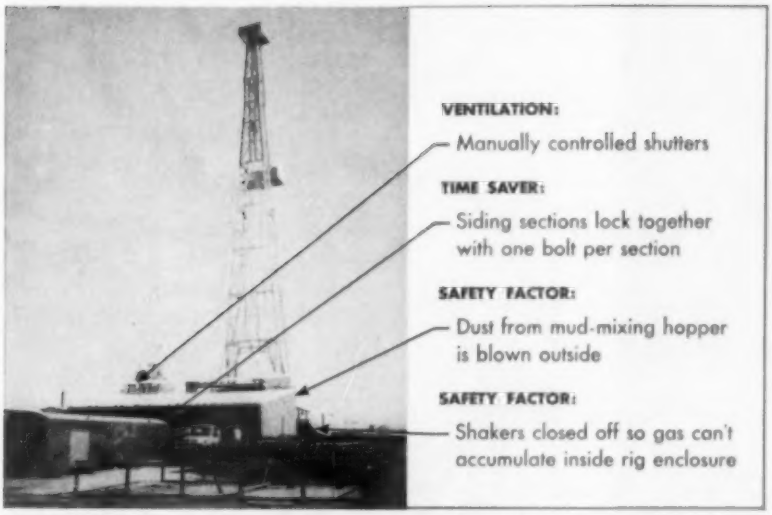
Simonette is envisioned as an area eventually including several pools rather than one big pool.

Holes that have been abandoned as dry (see map) are Nos. 4-17, 12-3, and 2-11 on the north and east; 10-33 and 9-9 on the south, and 16-4 on the west.

No. 12-26, although dry in the D-3, is reported to have found gas production in the D-1 zone.

Shell, at last report, was drilling No. 10-6, lsd 10-6-63-25w5, and location had been made for Shell et al No. 10-2, lsd 10-2-63-26w5.

Richfield Oil Corp. (L. A.) has location for a test about 6 mi. west of Simonette. And Triad Oil Co. at last report was at 6,900 ft. at No. 10-32, lsd 10-32-60-26w5.


VENTILATION:
Manually controlled shutters
TIME SAVER:
Siding sections lock together with one bolt per section
SAFETY FACTOR:
Dust from mud-mixing hopper is blown outside
SAFETY FACTOR:
Shakers closed off so gas can't accumulate inside rig enclosure

ALASKA-BOUND rig reflects drilling experience gained in three years. That's why . . .

This Rig Is Really Winterized

The lessons of more than three years of drilling experience in Alaska are embodied in the winterizing of a rig being shipped to the Kenai Peninsula.

The rig is being shipped from Bakersfield, Calif., by Coastal Drilling Co. It is being trucked from Bakersfield to Oakland, where it will be loaded on a barge for shipment to Seward, Alaska.

The first use will be for Standard Oil Co. of California, on a remedial job at No. 2 Swanson River Unit.

Simplicity is a key factor in the winterizing, leading to savings in time and money for installation.

Siding sections used to winterize the rig, for instance, lock together with only one bolt for each section. By eliminating nuts and bolts in the siding sections, which are made of sheet steel and angle iron, it's anticipated that a crew will be able to install the winterizing completely in three hours by using a fork lift to hang the siding and a crane to put on the roof.

Previously, it has taken a crew using a crane as much as ten hours to install winterizing.

Among other special features is a manually controlled shutter between the engine house and pump house roof sections, to provide ventilation when necessary.

Experience has shown that whenever the wind isn't blowing, it's necessary to have ventilation, even when the outside temperature may be as low as 20F below zero.

A 75-hp. boiler will help furnish heat. The boiler has been unitized in a closed building that will sit over the water well at the location to keep the well from freezing up. It has been rigged in such a way as to permit pulling the water well if necessary.

Shakers are closed off so that gas from the drilling mud can't accumulate inside the enclosed portion of the rig.

The mud-mixing hopper will be boxed in, with a blower to blow the dust outside, instead of allowing it to accumulate in the engine house.

The rig was assembled partly new and partly used, at a cost of about $320,000.

It is a Continental-Emsco 500 with a 136-ft. Lee C. Moore mast, rated for 10,000 ft. with 4½-in. drillpipe or 12,000 ft. with 3½-in. drillpipe.

The drawworks is powered by two GMC 671 twins. Mud pumps are a 700 Emsco powered by two 671 twins in a unit package and an FXQ pump powered by one twin 671.

Other equipment includes blowout equipment electrically controlled from the driller's position, two 60-kw. light plants powered by a single GMC 671, an air hoist to be used in place of the cat line, and portable pipe bins.

The movement of the rig to Alaska helps center attention on the growing activity in that state.

Coastal's rig will be added to five other units now being used in Alaska.

Standard of California currently is drilling three tests; Richfield Oil Corp., (L.A.) is drilling at Cape Yakataga; and Paul G. Benedum, Operator, is drilling at Nulata.

Northwest Lisbon Area Appears to Be Proving Its Promise

Current tests in the Northwest Lisbon area of San Juan County, Utah, add weight to early speculation that this pool might prove to be the significant U.S. discovery of 1959.

Pure Oil Co. last November completed No. 1 Northwest Lisbon, section 10-30s-24e, for the first Devonian production in the Paradox Basin (PW—Nov.20'59,p28).

After showing a large potential for gas condensate production in the Mississippian, the well was completed in the McCracken (Devonian).

It now is flowing from 250 b/d to more than 400 b/d of high-gravity oil. Nearest Devonian production is 500 mi. southeast in Lea County, N. M.

Five tests currently are in the works, two of which have already indicated substantial production.

Pure's second test in the area, section 14-30s-24e, 1½ mi. southeast of No. 1, flowed 841 b/d of oil and 500,000 cf/d of gas through ½-in. choke and perforations at 8,905-43 ft. and 8,960-98 ft. in the Devonian.

On 24-hour test through ten sets of Mississippian perforations between 8,192 ft. and 8,548 ft., the well flowed 413 bbl. of condensate and 6.2-million cu. ft. of gas.

Pure's third Northwest Libson test 1 mi. northwest of the discovery, was nearing the Devonian at last report, after flowing gas at the rate of 7-million cf/d on drillstem tests in the Mississippian.

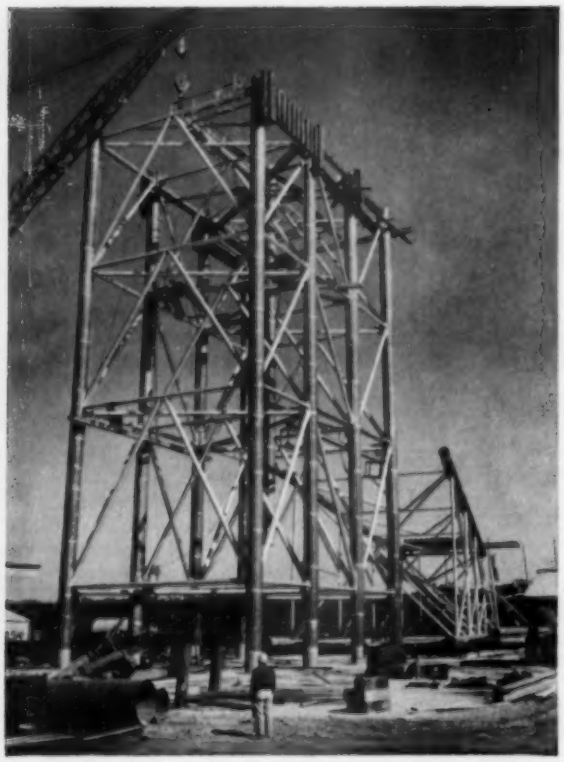
The company recently spudded a fourth test in the area.

Belco Petroleum Corp., after drilling the only dry hole in the area at section 32-29½s-24e, at last report was drilling in the Devonian in section 16-30s-24e.

One mile west of No. 1 Northwest Lisbon, Elliott Production has set pipe in a test reported to have found production in the Devonian.

The Lisbon anticline is one of many well-defined, sizeable salt core structures in echelon on a northwest-southeast trend through the northeastern Paradox Basin.

The considerable relief of the structure is evidenced by the fact that Pure's second well is some 483 ft. lower on the McCracken than is the discovery. And the Elliott test appears to run more than 1,450 ft. lower than the discovery.



FABRICATION of 80-ton aluminum offshore tank platform for use in Lake Maracaibo is in final stages at J. Ray McDermott yard.

ALUMINUM TEMPLATE is lowered into Maracaibo's brackish waters, where it will serve as a drilling and production unit.

Aluminum Offshore Units Make It Big

More than 80 aluminum structures of various sizes have been erected in Lake Maracaibo.

Aluminum offshore oil platforms have sprung up all over Lake Maracaibo in Venezuela since being introduced only 2½ years ago. They are small, permanent installations, used both for drilling and production.

As of Apr. 1 this year, a total of 79 such structures had been installed in the lake. Since then, several more have been fabricated and shipped by J. Ray McDermott & Co., which designed and built the units with the technical assistance of Reynolds Metals Co.

The two companies designed the platform as an answer to Lake Maracaibo's extreme corrosion problem. The first group of four aluminum structures was installed in September, 1957.

The structural utility and corrosion resistance of the aluminum platforms are two of the major reasons behind the swift increase in their use.

Service reports from operators show that the structures have little vibration during drilling, and wind and wave conditions cause no noticeable deflection. The inherent stability of the jacket-type structures is cited as a big reason why there is virtually no breakage of drill bits.

On several occasions, large marine cargo barges have collided with the structures during storms on the lake, with only minor damage to boat landings resulting.

McDermott notes that the structures are braced continuously from above the water line down through the mud line to provide the stability and rigidity. Steel piling driven inside the 34-in. diameter legs of the platform carries the weight of equipment on the platform deck. The annulus between the steel piling and the aluminum legs is filled with a special grout.

Insulating guides spaced throughout the legs, as well as rubber gaskets at the tops and bottoms, were designed to prevent electrical contact between the two metals. Periodic measurements of the electrical potential show the insulation to be effective.

Early platforms were all single-well structures, but there has been increasing interest in larger platforms.

Of the units installed so far, 47 are for single wells, and 27 are twin-well structures. They are much smaller than those normally used for offshore drilling. Larger units can be fabricated if necessary, McDermott says.

In addition, three offshore flow stations have been set up on the aluminum structures, and another platform has been installed for a future flow station.

The largest platform set up so far is for a crude collection station for Superior Oil Co. of Venezuela.

This platform supports an 8,000-bbl. surge tank, believed to be the largest such in the lake. The structure has eight 114-ft. aluminum legs, in two rows of four legs each, strengthened by aluminum pipe as lateral bracing. The platform, 63 ft. long and 40 ft. wide, contains about 80 tons of aluminum.

The newest collection station platform supports a completely automated flow station, also the first of its kind in the area.

What's New / IN EXPLORATION, DRILLING, PRODUCTION

Geologists Divided On Registration Issue

The controversial nature of the question of whether practicing geologists should be registered is reflected in a poll of members of nine geological societies in the Southwestern Federation of Geological Societies.

The survey, conducted by the federation's Study Committee on Registration showed 425 approve registration, while 455 disapprove. A total of 109 were listed as undecided.

Opposition appears centered on the lack of assurance of a uniform registration requirement. Proponents say the move would upgrade the profession and protect bona-fide geologists.

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Increase in Hauling Rates Hit by AAODC

Proposed increases in interstate hauling rates could lead to a "substantial increase" in the number of drilling contractors who operate their own trucks.

This was the prediction made by Warren L. Baker, executive vice-president of the American Assn. of Oil Well Drilling Contractors, following a recent Interstate Commerce Commission hearing in Dallas.

The increases in rates for moving machinery and pipe are sought by the Oil Field Haulers Assn. The rates would vary for hauls ranging from 5 mi. to 2,000 mi., with increases heaviest over short distances.

Baker said the rates would boost rig-moving costs by 5% to 15% for moves of 150 mi. or less. He added that the moving costs would be increased by as much as $900 on jobs involving big rigs.

Spokesmen for the haulers' group maintain that the increases are needed to offset "skyrocketing" labor and equipment costs. The Shippers Oil Field Traffic Assn. did not oppose the increases.

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General American Oil Co. has paid $5,756,000 to acquire gas properties in the Carthage area, Panola County, East Texas.

General American obtained a 30% interest in the Carthage Joint Venture, formerly held by Sabine Natural Gas & Products C. A. General American spokesman reported that the purchase added reserves of 100-billion cu. ft. of gas and 1-million bbl. of gas liquids.

Terms of the trade were $206,000 in cash, with the balance from reserved production payments.

•

Positioning has begun of platform "Hilda," the second oil drilling structure to be erected on the Summerland lease off Santa Barbara County, Calif.

Standard Oil Co. of California, Western Operations, Inc., is operator for itself and the Humble division of Humble Oil & Refining Co.

The 148-ft.-high tower has four legs arranged in an 80x75-ft. pattern. It is being set in 106 ft. of water, about 1¾ mi. from "Hazel," the first platform set in the area.

The $3-million platform will have facilities for drilling up to 24 holes, two at a time if desired.

•

A total of 52,584 acres in 123 tracts will be offered for oil and gas leasing June 15 by the Colorado Board of Land Commissioners.

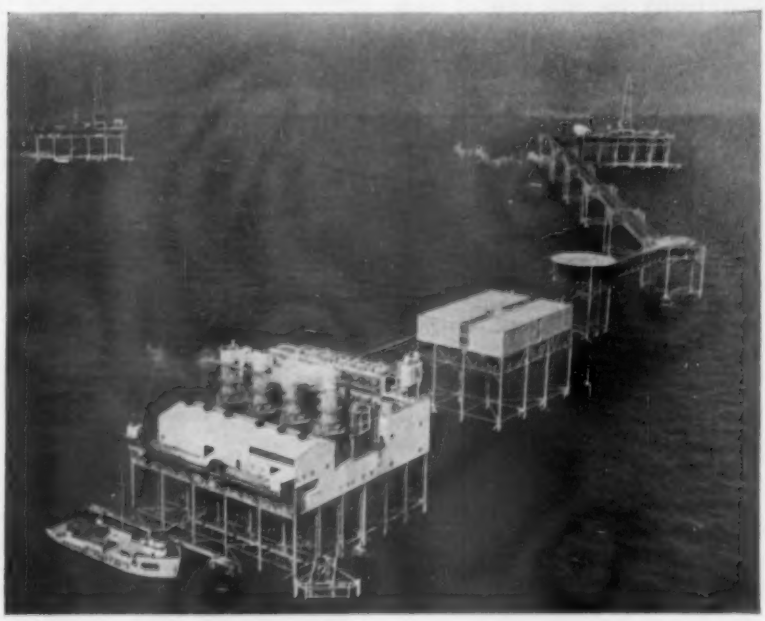
Substantial amounts of the acreage lies in counties generally south and east of the Denver-Julesburg Basin, though some tracts are in the more active basin area, and five tracts are in northwestern Colorado.

•

A special Colorado legislative committee is holding a series of hearings throughout the state to evaluate present methods of leasing state lands.

The first meeting was held in Denver on May 28. The next will be held at La Junta on June 13.

The committee is expected to make



Largest Steel Island Is Completed

Operations have begun at the world's first offshore sulfur mine, following completion of the largest steel structure ever erected in the Gulf of Mexico. The half-mile-long structure, located 7 mi. off the Louisiana coast, is the principal unit in Freeport Sulphur Co.'s $30-million project to mine the Grand Isle deposit. As mining progresses, the platform will be extended to form a giant Y almost a mile in length.

DOW

serves
PETROLEUM
across
the board

Dow chemicals and the Dow research staff serve the entire petroleum industry, up and down the line . . . from providing drilling chemicals to assisting in production and refining, to trouble-shooting gas conditioning operations. The daily work of Dow's petroleum and gas conditioning laboratories includes such widely ranging problems as drilling mud breakdown, contamination of gas processing chemicals, and new product development. This report highlights just a few of the many hard-working Dow chemicals and services which daily benefit the industry.

HIGH-DENSITY BRINES CUT COMPLETION COSTS FOR GULF COAST DRILLERS

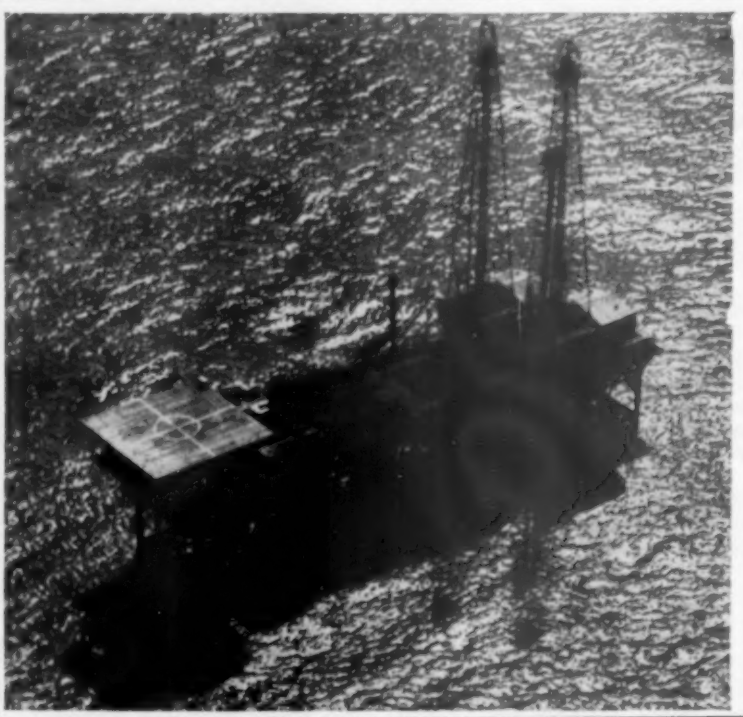
More and more Gulf Coast drillers are discovering that completion costs can be cut substantially by the use of new high-density brines made from Peladow® . . . the highly concentrated pellets of Dow calcium chloride.

Because Peladow pellets (94-97% calcium chloride) are the most concentrated form of active brine material available, drillers save at the outset on freight costs. But even more important are the savings on work-over costs when brines containing high-density Peladow replace weighted packer muds. With these heavy brines, there is no troublesome solids precipitation or solidification, so often encountered with packer muds in annular fillup.

The easy handling of Peladow further reduces high rig and handling costs in offshore and tideland operations. On the spot, the pellets dissolve quickly in one step in a mud pit or tank, and the resulting brine can be handled with standard mud pumps.

Concentrated Peladow will form stable brines of much higher densities than are possible with sea water or sodium chloride—thus suiting them for use in high pressure as well as low pressure wells. Such brines are regularly used at densities up to 11.6 pounds per gallon. Even higher densities are easily obtainable with combinations of Peladow and other inorganic salts.

There's an informative brochure available entitled "Peladow Calcium Chloride For Oil Well Completion Brines" that is full of detailed information on this cost-saving material. Write for your copy.



Economical Peladow® pellets produce completion brines of much higher densities than are possible with either sea water or sodium chloride.

• DOWICIDE® PRESERVATIVES
preventive medicine for mud

Bacteria and fungi haven't a chance when starch-containing muds are shielded by Dowicide preservatives. Preventing starch decomposition by microbe attack, particularly where mud pH falls below 11, is a simple, economical matter . . . add a bit of Dowicide G!

Other Dowicide preservatives solve other specific problems, too. For example, Dowicide F or G protects flooding water and retains porosity of below-ground strata. Processing water is effectively kept free of algae, fungi and other slimes which otherwise cause trouble in circulating systems.

Dowicide® preservatives control bacteria in high-starch muds and process water.

• DOW MURIATIC ACID
powerful performer

There's no more versatile aid to the industry than Dow muriatic acid. In inhibited form, this high-quality chemical is used in acidizing wells to increase the flow of petroleum many fold.

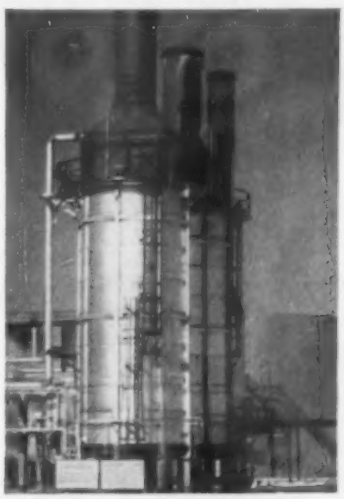
It's used, too, to dissolve and remove built-up deposits of scale from well surfaces and downhole equipment. And not the least of its value is in the cleaning and descaling of coolers, condensers, flow lines, boilers and virtually every other kind of oil field equipment. In fact, Dow muriatic acid has potential application *wherever* scale deposits impair operating efficiency. Available in a full range of grades and strengths.

Refining and gas conditioning, too

DOWTHERM® A
takes the pressure off refining

Low pressures, high rate of heat transfer, and fraction-of-a-degree temperature control from 350° to 750° F.–this is Dowtherm A, Dow's high-efficiency heat transfer medium which can be used in either vapor or liquid phase!

Compared to direct fire heating, Dowtherm A gives more uniform temperature control, reduces carbonization, and because of better efficiency, there are savings on fuel. When heating reboilers for regenerating glycol, Dowtherm A does not cause degradation of the glycol, as do high skin temperatures found in direct fire heating. Compared to steam, Dowtherm A eliminates the hazard of high pressure. At 700° F., steam is over 3000 psi; but Dowtherm A is at *only 95 psi.*



GAS CONDITIONING LAB
process help in a hurry

Dow's Gas Conditioning Laboratory takes the clinical approach in helping customers solve gas processing problems. Complete analysis of samples of glycol and amine solutions from the customer's plant generally provides the clue to the source of trouble. But sometimes not, in which case a Dow specialist is Johnny-on-the-spot, checking out the process personally.

The services of Dow's technical staff and the extensive laboratory facilities are available to aid in the use of glycols and amines, to any company engaged in gas processing. No matter what your gas problem . . . whether in dehydrating, sweetening or scrubbing . . . Dow is on-call, ready to give you an experienced hand in helping bring your process back to health.

DOWELL, a division of The Dow Chemical Company, with general offices and laboratories in Tulsa, Oklahoma, provides oil- and gas-well acidizing, formation fracturing, cementing services and chemical products. These services and a group of specialty chemical products are sold through more than 150 sales and service outlets in the United States, Canada, Venezuela and Argentina. For more information about Dowell consult the telephone book or write Dowell, Tulsa 2, Oklahoma.

• THESE ARE ONLY A FEW of the many chemicals and services which Dow provides for the petroleum industry. For more information on these and on the other Dow products, write THE DOW CHEMICAL COMPANY, Midland, Michigan, Chemicals Merchandising Dept. 500LR6-10.

THE DOW CHEMICAL COMPANY
Midland, Michigan

DOW

MAGCOBAR TECHNOLOGY GIVES YOU MORE THAN MONEY CAN BUY...

To begin with, Magcobar technology itself is more than money can buy. It gives you an extra assurance of success. Magcobar technology allows you to take advantage of every cost cutting opportunity. It helps you to drill better, more profitable wells. But, more than that, Magcobar technology helps you plan right from the start. The Magcobar **planned mud program** keeps the over-all cost of drilling down. And Magcobar can base this planning on its broad experience, the quality of its products, and the skill of its mud engineers. It's all to your advantage! Wherever in the world you are drilling, begin now to plan with Magcobar for your next wells. You can be confident of cutting high drilling costs and of a well done with Magcobar technology.

ANOTHER WELL DONE WITH MAGCOBAR TECHNOLOGY

Magcobar
Complete
DRILLING MUD SERVICE

MAGNET COVE BARIUM CORPORATION

a full report, with any recommendations for changes, by Nov. 15.

•

A California contractor is keeping a drilling rig active by using it to run interference for a new freeway. Hagestad Drilling Co., Bakersfield, will use the rig to help in the abandonment of 23 old wells that lie in the path of a freeway to be built through the Signal Hill area, near Long Beach.

•

The Alberta government will offer licenses of natural gas rights in Crown Reserves on a total of 156,750 acres June 21. The eight licenses involved—numbers 94 through 101—are located chiefly in southeast, north, and northwest parts of the province.

•

Engineering

Bowen Itco, Inc., has shipped what is believed to be the largest releasing spear ever made.

The tool is a 20-in. spear designed to retrieve 20-in., 96-lb. casing. It is being shipped to Iraq.

Drilling Highlights

Alberta—Champlin Oil & Refining and Anderson-Prichard Oil No. 10-15 Sylake, lsd 10-15-37-3w5, was dually completed in the Mississippian for 4-million cf/d of gas through perforations at 7,234-63 ft. in the Elkton, and for 355 b/d of 34.8-gravity crude through perforations at 7,394-414 ft. and 7,420-30 ft. in the Pekisko. The discovery is 9 mi. south of Hespero (Pekisko) oil field, and 20 mi. northeast of Sundre (Elkton) gas field.

Utah—Pure Oil Co. No. 3 Big Flat Unit, section 23-26s-19e, Grand County, flowed 45-gravity oil at the rate of 30 to 50 bbl. per hour from a salt section of the Paradox (Pennsylvanian) at 6,325-75 ft. in Big Flat (Mississippian) oil field. Pure has encountered such shows in previous tests at Big Flat, but completion attempts failed and the oil shows disappeared. The flow at No. 3, however, is reported to have been sustained for four days, at last report.

Wyoming—Farmers Union Central Exchange No. 1 Carlson, section 1-49n-77w, Johnson County, recovered 113 ft. of oil and 60 ft. of mud on two-hour drillstem test at 7,017-29 ft. The prospect is 4½ mi. west of South Barber Creek pool.

South Louisiana—Cabot Carbon Co. No. 1 Williams, Inc., section 5-13s-11e, Iberia Parish, was triply completed for 2-million cf/d of gas and 216 b/d of 36-gravity oil through 10/64-in. choke and perforations at 12,132-40 ft.; 637,000 cf/d of gas and 48 b/d of 49-gravity oil through 14/64-in. choke and perforations at 12,226 ft.; and 1.2-million cf/d of gas and 340 b/d of 35-gravity oil through 10/64-in. choke and perforations at 12,342-44 ft. The well is 3 mi. south of Bayou Pigeon field.

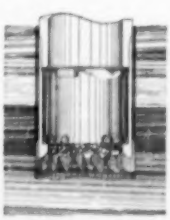
New Mexico—Texaco Inc. No. 2-B Loc-Federal, section 23-29n-12w, San Juan County, was completed for 9.8-million cf/d of gas through ¾-in. choke and perforations at 6,170-310 ft. in the Dakota. The well is 3 mi. from Dakota production.

Mississippi—Warrior Oil Co. and Paul A. Radzewicz No. 1 Prestridge Unit, section 26-4n-6e, Amite County, was completed for 408 b/d of 40-gravity oil through 10/64-in. choke and perforations at 11,055-70 ft. in an unidentified pay. The wildcat is 2 mi. southeast of Smithdale field.

IN OVERSEAS OPERATIONS...

GLOBE MODEL "N" JUNK CATCHERS

ARE AS VITAL AS A VISA!



Globe Magnet type catcher. Circulation flows between basket head and magnet.

Both the upper and lower catcher dogs serve to hold ANY load securely while coming out of the hole.

...and it's the only Junk Catcher with interchangeable Magnetic and Dog Type Catchers.

Wherever you may be—from here to breakfast—you'll find that the Globe "Model N" is the standard Junk Catcher for the industry. It's a fast, dependable fishing tool so simple in design, construction and operation that any crew can run it with complete assurance of full recovery of all types of loose junk.

The Globe Junk Catcher uses both a magnetic or dog type catcher—and each is interchangeable so that only one complete outfit is required. Operators appreciate the maximum flexibility in operation and recovery with a minimum of equipment and investment.

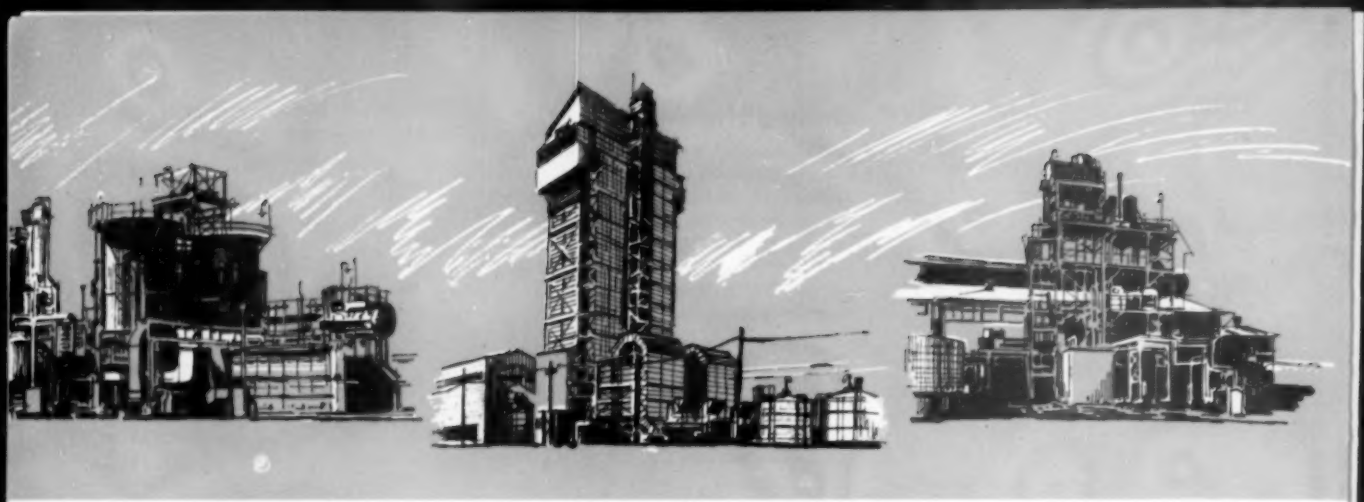
Why don't you investigate the advantage of this low cost "insurance" on your next job? Write for descriptive literature.

GLOBE OIL TOOLS

GLOBE OIL TOOLS CO.

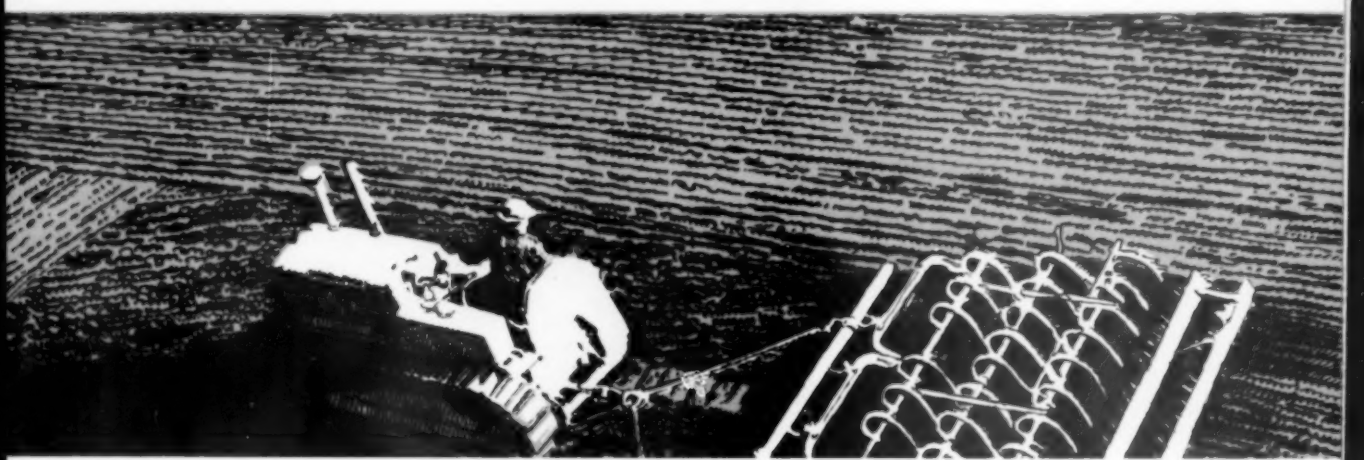
Main Office and Plant: LOS NIETOS, CALIFORNIA

Branches maintained in all principal drilling areas



Chemicals for the soil...

Chemico has production-proven processes for the major fertilizer chemicals



ammonia / ammonium sulfate / ammonium nitrate

ammonium phosphate / superphosphate

triple superphosphate / urea / complex fertilizers

nitric acid / sulfuric acid / phosphoric acid

In India, Pakistan and Japan; in England, France and Italy; in Hawaii, Sumatra and Formosa; in Australia, South Africa and South America; in more than half the states of the Union and in every highly populated area on earth, Chemico-designed plants are producing basic fertilizer chemicals to increase world food production.

Chemico's experience in designing plants to produce fertilizer chemicals is unmatched by any other engineering company in the world. More than 200 Chemico sulfuric acid plants are now in operation. Sixty-five Chemico ammonia plants are on stream or under construction. In January of this year, Chemico completed its thirty-fourth nitric acid plant. Other Chemico plants now in production or under construction have capacities for producing 3,700,000 tons per year of ammonium sulfate and 1,600,000 tons per year of ammonium nitrate. When the capacity of the Chemico urea plants now under construction in Pakistan and the U. S. is added to what is being produced at plants in Japan, Canada and elsewhere in the U. S., the Chemico urea process will account for more than 400,000 tons per year.

Chemico's proven processes are transformed into efficient operating plants with maximum speed and with minimum expense to the client. Ease of start-up and low operating costs are just two of the more obvious advantages of Chemico plants. If your company is considering the construction of additional production facilities, or the expansion of your present plant, Chemico will help you find the most efficient and economical solutions to your process problems.

CHEMICO

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AUTOMOTIVE INDUSTRY uses polyurethane in its engines and for body parts.

SPACE TRAVEL will be made more comfortable by judicious use of urethane foam.

GREAT TOUGHNESS of polyurethane elastomer is put to hard test in this Air Car.

Urethanes Winning Larger, Wider Market

Polyurethane foam, which first appeared on the market less than five years ago, has already become one of the most popular petrochemical plastics.

Its various applications, exhibited at the recent Design Engineering Show in New York, showed its versatility.

Mobay Chemical Co., one of the pioneers in the manufacture of polyurethane, predicted that better than 100-million lb. of the foam in all its forms will be produced in 1960. That is over three times the level of its 1957 production. In addition, a small but steadily growing quantity of urethane is being produced as a solid elastomer.

Polyurethanes became commercial as the result of a new polymerization technology.

Basically, polyurethanes are either polyesters or polyethers produced by the combination of toluene di-isocyanate and an alkyl glycol, in the presence of a catalyst and various additives.

By changing one or several of the ingredients brought into the combination, and by controlling the conditions of the reaction, it is now possible to produce a great variety of polyurethanes, from a feather-light foam to a hard, tough elastomer.

Furthermore, the reaction, which used to be performed in several steps, with production of an intermediate prepolymer, is now a "one-shot process."

The polyether urethanes are at present the most popular.

They are less costly to manufacture than the polyesters and have a better resiliency, according to Mobay. Their initial raw material is polypropylene glycol.

Polyesters, made with such raw materials as diethylene glycol and adipic acid, are better adaptable to certain specific uses, for example, when they must be cut very thin.

Polyurethane foam can be made as a soft, flexible, synthetic sponge rubber, or in a rigid foam.

It has countless applications. In its

Polycarbonate Resins to Be on Market Soon

Polycarbonate resin, a new thermoplastic compound, is now being manufactured in the U.S., after having been used widely in Europe for over a year.

Polycarbonate is made from phosgene (carbonyl chloride) and bisphenol A. It is therefore a natural additional product in plants that make polyurethane and epoxies: Phosgene is needed to make di-isocyanate, one of the basic ingredients for urethane, and bisphenol A is one of the basic ingredients for making the conventional epoxies. Actually, this resin can be called a linear aromatic polyester of carbonic acid, says Mobay Chemical Co.

Mobay is starting the commercial production of polycarbonate resin, under the name of Merlon, at its new Martinsville (W. Va.) plant.

Polycarbonate resin has many potential applications. It is expected to be of particular interest in the field of electronics, because of its high dielectric and mechanical strength, low water absorption, high heat stability, and good transparency. It is also self-extinguishing.

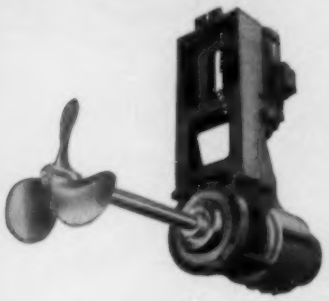
Mobay is owned jointly by Monsanto Chemical Co. and Farbenfabriken Bayer A.G.

NEW from Philadelphia...
SIDE ENTERING MIXERS

And there is plenty that's *new* about them. Shorter, more compact; they minimize the need for mounting braces. Reducer and reducer support stand housing is one piece to provide more rigid support for bearings, shafting and gearing. In short, these new mixers are designed for the job . . . not adapted to it. They overcome all the problems inherent in mixers that are a collection of components designed for other purposes.

And if you are looking for better mixing, these new Philadelphia mixers will deliver it. Large volumetric flow means thorough top-to-bottom turnover, even in the largest tanks. As for cost, Philadelphia side entering mixers cost less than *any mixer* of comparable quality.

NEW
FROM EVERY ANGLE



COMPACT. This is an extremely compact mixer. Weight is centered close to the tank wall. There's less overhang . . . less strain on tank walls and nozzles. Need for bracing at points other than the mounting flange is minimized.

HIGH CAPACITY GEAR REDUCER IN MIXER DRIVE. The capacity of the precision spiral bevel drive, using maximum standard motor sizes, is more than twice AGMA requirements. This means far greater gear life than normally required.

ONE PIECE GEAR REDUCER AND REDUCER SUPPORT STAND HOUSING. Rugged and rigid, it is designed for large, high capacity bearings, and large-diameter shafting. Result: truer running agitator shafting and reduced maintenance.

DEPENDABLE SHUT-OFF ARRANGEMENT. The mechanical seal is a cartridge unit. One man can change it quickly and easily with a full head of liquid in the tank, without moving the mixer in any way.

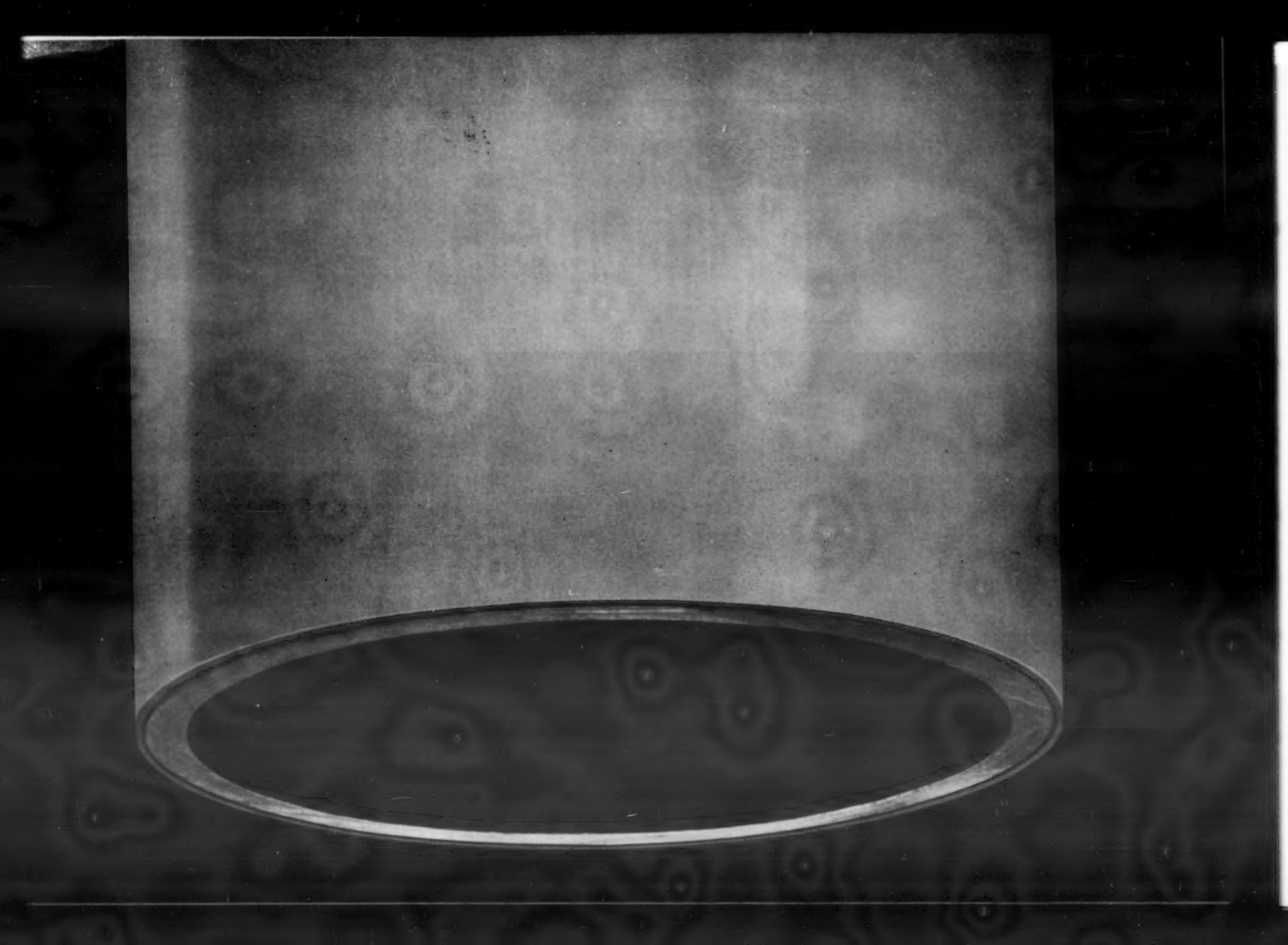
TRUE RUNNING SHAFTS. Minimum distance from reducer to shaft seal, combined with large diameter shafting, means less run-out at the seal. Mechanical seals last longer. Packed stuffing boxes require far less maintenance.

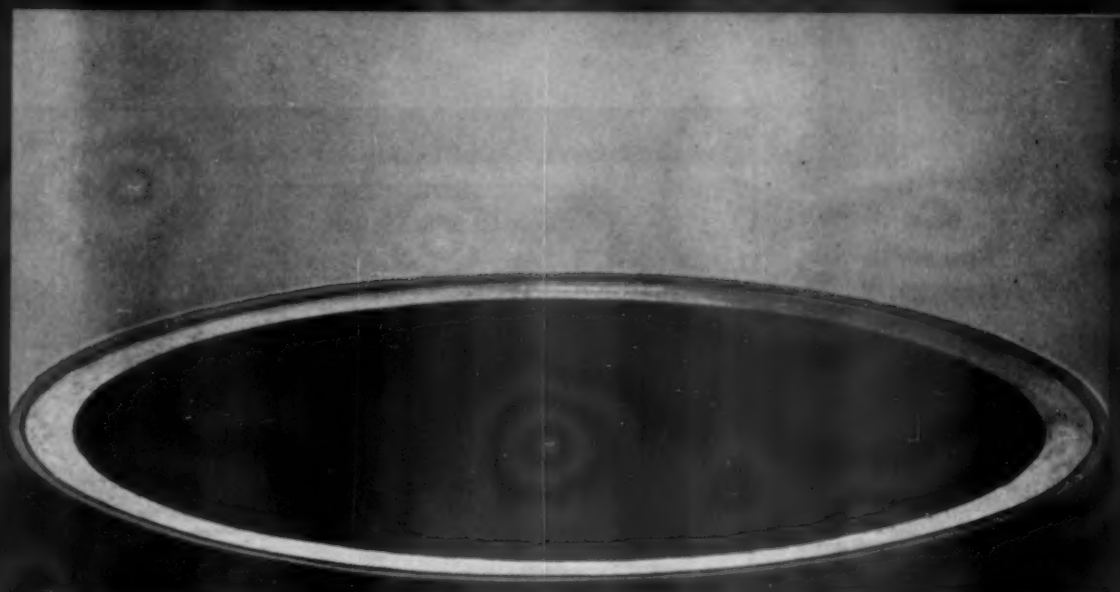
SIMPLE, FOOLPROOF LUBRICATION. Time-tested oil splash system provides correct lubrication to gears and bearings.

For better mixing, and a better mixer, get all the details. Write for Catalog PSE-60. Sizes: Model 08, 1 to 7.5 HP; Model 11, 10 to 25 HP.

PHILADELPHIA GEAR CORPORATION
King of Prussia, Pennsylvania
(Suburban Philadelphia)

philadelphia mixers





6" AND 8" X-TRU-COAT IS HERE!

PROVEN CORROSION-PROTECTION for more and bigger piping jobs comes with Republic's announcement of new 6⅝" and 8⅝" O.D. X-TRU-COAT. The new sizes bring the size range from 1.050" through 8.625" O.D. (Already our customers are suggesting that we think about producing even larger sizes. And the customer is always right.)

The ability of Republic X-TRU-COAT to stop chemical and electrolytic corrosion has been proved in hundreds of installations. The same installations have demonstrated that X-TRU-COAT's rugged plastic coating is resistant to shipping, stringing, and backfilling damage.

X-TRU-COAT's high-density polyethylene plastic is continuously extruded over "live," pressure-sensitive undercoating. This undercoat never becomes hard or brittle. It eliminates the threat of underfilm migration.

Republic also offers new X-TRU-TAPE Polyethylene Joint Wrap (in 1-, 2-, and 4-inch widths) and X-TRU-PRIMER. Both assure maximum and homogeneous joint protection for the entire pipeline. For information or quotations on the complete X-TRU-COAT package, call your nearest Republic representative or mail the coupon below.

Republic X-TRU-COAT is produced under the Dekoron® Process.

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flexible form, it is used as a cushioning and shock absorbing medium in furniture, automobile, and aircraft construction. It shows promises of valuable applications for space travel (picture, page 28).

It can be made into thin sheets for decorating purposes.

In its rigid form, urethane foam can be used to reduce costs in insulating, packaging, and shipping. Sandwiched between two sheets of aluminum, urethane foam is used for the manufacture of lightweight serving trays, and, on a different level, for structural panels. Du Pont uses it to make air filters for automobiles and for air conditioners (picture, page 28).

An interesting feature of urethane is that it can be "foamed in place."

This means that the ingredients for its manufacture can be blown together into the space that the finished rigid foam is supposed to occupy.

Du Pont uses as one of its ingredients in preparing foam for this purpose a blowing agent similar to Freon refrigerant.

Semisolid and solid urethane elastomers are being used increasingly in industry as replacements for tough, abrasion-resistant rubbers.

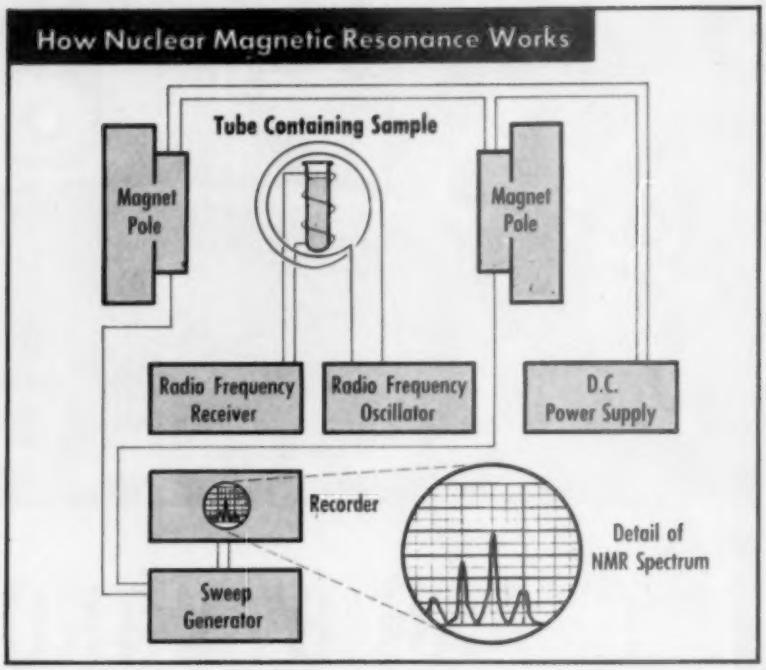
They resist the action of oils, greases, hydraulic fluids, and many solvents. They have good impact wear, a wide hardness range, and yet good elasticity. And they have a high resistance to ozone.

"Urethane elastomers have outworn machined steel components in certain dynamic uses," says Mobay, "and have surpassed the service life of industrial-grade rubbers by as much as 30 times in other field applications."

A 63-pound cast-in-place truck tire and several hydraulic components, made by Disogrin Industries, Inc., with Mobay urethane, were displayed at the New York show. Du Pont makes a clear polyethylene coating that gives a tough, abrasion-resistant surface to floors of factories or gymnasiums.

U. S. Rubber Co., which makes a polyurethane elastomer under the name of "Uscothane," says that chute linings for the handling of iron ore usually give way after handling 60,000 tons of ore. Uscothane linings have passed the 950,000-ton mark without showing any sign of giving way.

Urethane crawler wheels on the wrapping machines for oil or gas pipelines outlast rubber wheels nearly three to one. And urethane protective skirts, made by U. S. Rubber, are used on the experimental Curtiss Wright Air Car (picture, page 28).



Nuclear Magnetic Resonance Analyzes Molecular Structure

Nuclear magnetic resonance spectroscopy—NMR—is a new analysis technique used to determine the structure of chemical compounds. It promises to become of great value to the petroleum processing industry.

Its principal use in refineries is to study the effects of varying conditions on the products of certain refinery processes, such as alkylation and polymerization.

According to Robert J. Jakobsen, of Battelle Memorial Institute, the percentages of aromatic hydrogen, olefinic hydrogen, alkyl hydrogen adjacent to either aromatic rings or olefins, and paraffin hydrogen can be calculated from the NMR spectra. And from these data, the average number of olefin bonds and of carbons per side chain can be determined, as well as the average percentage of substitutions.

These data lead to an average formula for the structure of the reaction product, information that would be difficult to obtain by any other technique, says Jakobsen.

Another valuable application of NMR is in the analysis of mixtures of low-molecular-weight oxygenated compounds. It can also be used to determine the position of olefin groups in several resin acids, information of interest to the petrochemical industry.

The technique is similar to that of spectroscopy. But a magnetic field is used instead of a light.

In spectroscopy, the sample to be analyzed is subjected to a source of light. The radiation emitted by the sample is then broken into a spectrum by means of a prism or a grating. That spectrum is analyzed by a photoelectric cell or a thermocouple.

In NMR spectroscopy, the sample is subjected to a magnetic field modified by an oscillator. Instead of a prism or grating, a "sweep generator" is used to vary the strength of the magnetic field. The magnetic reaction of the components in the sample induces a voltage in the coil of a radio-frequency receiver, which can be detected and recorded. It produces peaks of various intensities according to the nature of the components of the sample (diagram, above).

Jakobsen has been using spectroscopic techniques in his studies of phenols and their action upon the weatherability of asphaltic materials. He indicates that magnetic resonance spectra are given only by certain atoms—such as hydrogen, fluorine, phosphorus, and nitrogen—and not by others—such as carbon and oxygen.

Hydrogen protons, which are plentiful in petroleum chemistry, produce

different peaks in the NMR spectrum. The position of each peak, says Jakobsen, is dependent upon both the nature of the chemical group of which the particular proton is a part, and the proton's relationship to other chemical groups.

One major advantage of NMR is that the sample can be studied in a sealed glass tube.

The sample is not destroyed or modified by the analysis. Samples sensitive to oxygen, moisture, or evaporation are easy to study and can be stored indefinitely without fear of loss or contamination.

Also, in the NMR spectrum the areas under the peaks are proportional to the respective number of nuclei whose resonance produces them. Hence NMR is useful with complex mixtures, when all of the individual components are not known.

On the other hand, a disadvantage of NMR is that the sample must be liquid or in solution for accurate analysis.

NMR will not supplant any existing analysis technique. It is best used in conjunction with other methods, Battelle points out.

For example, the identity of certain compounds can be obtained easily with infrared spectroscopy, and the actual structure of the compounds can then be determined by NMR.

Extra Lube Boosts Engine Power

The power output of many piston engines could be substantially increased if only their crankshaft bearings could be made to withstand higher loads. Glacier Metal Co., Ltd., of Wembley, England, says that this can now be accomplished by a new lubricating method.

Glacier has conducted extensive tests on a specially built "dynamic simulating test machine," with a transparent bearing and a hollow journal. It found that in most piston engines —diesels, for example—there is a high-load point in the operating cycle when the film of lubricating oil on the bearing is badly disrupted.

Cavitation—complete absence of fluid—takes place, and the cavitation area moves around the bearing at about half the shaft speed. This happens at peak bearing load, which, in large diesel engines, occurs just before the firing load, Glacier found. As a result, the firing shock is taken by a disrupted oil film instead of a full, cushioning film, and bearing failure may occur.

The new method provides an additional supply of oil, under pressure, at the critical moment of the engine cycle, to assure a constant oil film.

Glacier found that simply by moving the oil inlet timing in relation to the position of peak loading, oil film conditions were somewhat improved, but cavitation was not completely eliminated. The optimum timing of the oil inlet, the company says, is about 40 degrees ahead of top dead center for most big-end bearings.

The solution, Glacier found, was to inject a fresh, additional volume of oil, to assure a complete, relatively cool film of oil at all times.

This new method Glacier called Ramrod. It involves the installation of a positive-displacement ram-type oil pump, designed to inject a preset quantity of oil through the oil holes of the bearings, at a pressure sufficient to cover about 90 degrees of journal movement preceding the onset of the peak load.

The Ramrod injection is thus superimposed on the normal oil system.

Glacier estimates that the new method should make it possible to uprate bearing loadings by as much as 50%.

It can be adapted on existing engines with a possible increase of their safe maximum load of at least 20%. It can be incorporated in the design of new engines, and permit a reduction of size and weight per horse power.

The effectiveness of Ramrod is said to be independent of the bearing material used.

In a number of cases, Glacier says, the Ramrod system makes it possible to design engines for higher speeds without the need of counterbalance weights.

Glacier also associates engine rumble with oil film disruption, and believes that the new method should substantially reduce rumble noise.

Ramrod should cure the rumble noise problem, it says, probably by application to certain main bearings only. However it has not yet seriously studied the fitting of the Ramrod method to small automotive gasoline engines.

Arthur D. Little, Inc. has been for several years the exclusive licensing agent in the U. S. for the developments emerging from the Glacier Laboratories.

What's New

IN PROCESSING

To determine the comparative advantages of TML and TEL, Du Pont has made laboratory tests with 75 different fuels including pure hydrocarbons, and road tests with standard and high compression engines.

Du Pont told this week's SAE meeting in Chicago that TML has maximum advantage over TEL in gasolines having poor octane distribution over their boiling range. Tests showed that while 85% of TEL remains concentrated in fuel fractions boiling above 300F, TML is distributed in fuel fractions boiling between 150F and 300F.

TML is also preferable to TEL in cars with poor fuel distribution among cylinders, such as European cars and some six-cylinder American cars with manual transmissions.

The advantage of TML also increases over TEL with the increasing aromatic content of fuel. Phosphorus and sulphur antagonism is somewhat greater with TML than with TEL, but loss of octane from this contamination is small for both. TML and TEL give similar performance with respect to spark plug fouling and surface ignition. TML was also proved to have no adverse effect on gasoline stability. TML shows the same advantages over TEL at part throttle as under full-throttle modified Uniontown conditions.

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Shell Oil Co. of Canada, Ltd., will begin construction on a "trickle-phase" hydrodesulfurizer at its Montreal East refinery in July. Completion date is slated for December.

The new unit will use Shell's patented process for reducing the sulfur content of distillate.

The construction contract has been awarded to Canadian Bechtel, Ltd.; cost of the unit and auxiliary equipment is estimated at $3-million.

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Construction has started on a $170,000 control laboratory at the No. 2 refinery of Standard Oil Co. (Ohio), at Cleveland.

It will provide facilities for the precision blending and packaging of experimental field size batches of new oil and wax formulas, for the marketing department.

Industrial Construction Co. is the builder; the refinery's own engineering department did the design.

Mobil Defends Its Two-Grade Policy

Company is convinced it can satisfy current demand without introducing a superpremium.

Customer surveys, taken repeatedly since 1956, have convinced Mobil Oil Co. that it should "stick to two grades and wait," rather than introduce a superpremium grade now or try blending pumps.

The latest survey of consumer buying habits completed by Mobil was taken last July, according to a company spokesman. At present, another survey is under way, but it is not expected to change the company's belief that two grades are all it needs. The current survey will be completed in July.

In 1956, Mobil decided that increased gasoline quality in two grades would satisfy the general demand for increased power. Superpremium fuels and blending pumps were so new at that time that most buyers hadn't even heard of them, Mobil's surveys indicated.

These findings were recently reported in the Spring issue of the Mobil Marketer, an internal publication beamed at Mobil's West Coast marketing division.

In 1957, Mobil became convinced that companies that had introduced multigrade marketing "had not increased their brand share through the move."

Further, reports the Marketer, "Mobil suffered no loss as a result of the multigrade innovation" by competitors.

In 1958, Mobil detected a growing public belief that more than two grades were necessary. But it wasn't enough to convince the company to quit its two-grade policy. A careful check indicated to Mobil that three-graders still weren't pulling customers from two-graders.

"Moreover," says the Marketer, "three-graders weren't attracting any more new-car customers than two-graders. In fact, the latter held a slight edge." (Mobil, for past two years, has used "the new-car gasoline" as the theme for its advertising.) "Further," says the Marketer, "most blending-pump (six-grade) customers were buying regular-grade gasoline."

Mobil will continue its two-grade system at least through 1960. But if conditions change, it may revise its marketing policy in the future, the company publication says.

To prepare itself for such a change, Mobil has already been installing additional storage tanks at its new stations, to allow them to switch to three grades when and if a change is necessary.

Asphalt Sales Score Record Growth

Total sales of asphalt and road oil are expected to top 21-million tons this year, according to estimates by the Asphalt Institute.

In fact, 1960 sales could reach as high as 23-million tons, if an unanticipated spurt in highway construction and home building occurs, a representative of the institute believes.

Earlier this year, the Institute had estimated that 1959 sales would just clear 20-million tons.

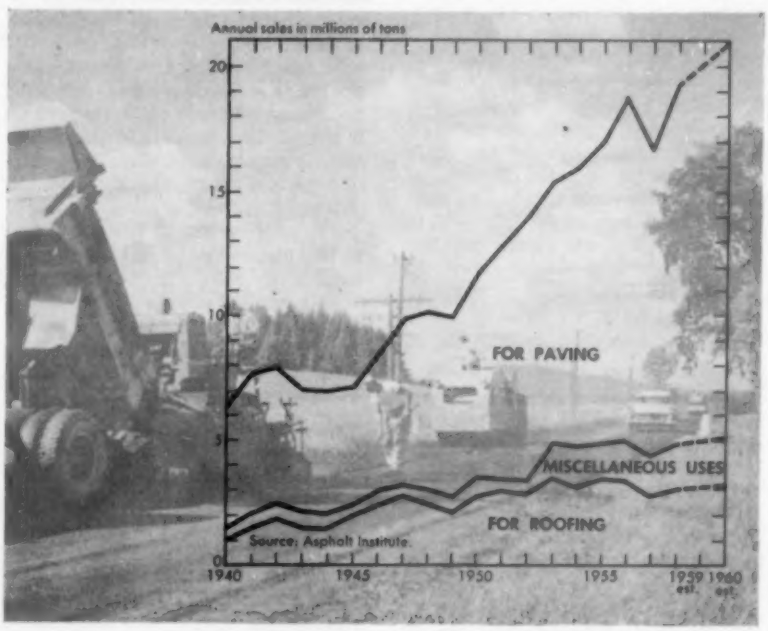
But when the official 1959 figures are released next week by the U. S. Bureau of Mines, they too are expected to reflect higher-than-anticipated growth.

Meanwhile, the Bureau of Public Roads announced last week that the Interstate Highway System is a little more than one-fifth completed.

This program is one of the prime stimuli to the sales of paving asphalts, which account for more than 72% of total asphalt sales (chart, right). By the end of March, 8,855 mi. of the interstate system (out of a planned 41,000 mi.) had been opened to traffic, according to the bureau.

Actual sales of paving asphalts have lagged behind predictions that were made when the highway program was in the talking stage. (It was adopted by Congress in 1956.)

One highway group foresaw a rise in paving asphalt sales to 24-million tons by 1964-65, followed by a leveling off.



It probably won't be that high that soon. But with 80% of the interstate highway program still to be completed, the outlook is for a longer (though less steep) uptrend than had been foreseen.

Oil Heat Subsidy Plan Pushed

Last week, oil marketers in the Northwest established a fund of $800,000 to stimulate oil burner installations.

From the fund, participating distributors may receive up to $82.50 per home for the cost of "sales promotion" involved in selling oil heating equipment.

With this allowance, distributors will be able to make oil units more attractively priced for new-home builders, proponents of the plan believe.

"Our program will reduce the cost of an oil burner installation to a point where it is competitive with natural gas and electricity," says Bob Elmslie, budget director for this Equipment Cost Equalization Program.

The new plan, which is still experimental, is an outgrowth of last year's pilot program, through which 800 installations were financed over a three-month period.

In that plan, new-home builders received a $100 subsidy for each oil unit they installed (PW—Oct.2'59, p51), providing they met certain requirements.

The plan was tested in Seattle and Portland at a cost of $80,000, and was considered extremely successful.

"Last year's program clearly indicated that a builder's loyalty to competitive fuels is measured—understandably—by cost," says Elmslie. "In most cases, builders actually prefer oil, if installation costs are within reason."

Distributors sought to make this program permanent, but participating refiners insisted on another seven-month trial period before making final decisions.

All the major refiners in the region except one are contributing to the equipment program. They donate 1/20¢ for every gallon of heating oil they sold in 1959, excluding sales to government accounts.

Each refiner is required to pay half of his committed funds by June 15, with a final payment by Sept. 15.

The program is supervised by the Pacific Northwest Regional Advisory Committee, and includes five chapters of the Oil Heat Institute of America: Seattle and Spokane, Wash.; Reno, Nev.; Portland, Ore.; and Boise, Idaho.

Oil marketers in the program believe that the fund will insure the installation of oil units in 5,000 homes over the next seven months.

A total of 17,500 homes are expected to be built in the four-state area during this period.

Meanwhile, oil heat marketers in this region are conducting an aggressive publicity campaign, which cost $414,000 for the 12 months ended June 1. This program is financed by approximately 400 distributors, plus refiners.

State Fair Trade Test Expected

Sinclair Refining Co. may appeal a recent court decision in favor of one of its Philadelphia dealers who had been violating the company's fair trade minimum prices.

Sinclair reportedly had been waiting for an opportunity to get a definitive higher-court opinion on fair trade in Pennsylvania.

Last December, the state supreme court sent back another Sinclair fair trade case to Common Pleas Court. Cases involving other oil companies have placed the legal status of fair trade in the state in doubt.

The lower-court decision which Sinclair may appeal rescinded an injunction that had prohibited the dealer from pricing below fair-trade minimums. In Pennsylvania, as in other states, oil companies are permitted to set state-wide fair-trade prices if just one dealer signs a fair-trade contract with them. In this most recent court action, Sinclair had sought (unsuccessfully) to prevent one of its nonsigning dealers from pricing below fair trade levels.

Meanwhile, the near future of fair trade in Pennsylvania remains in doubt.

But one marketer, Dwight T. Colley, vice president of Atlantic Refining Co., insists that the basis of fair trade depends more on the supplier-dealer relationship than on the courts.

"The dealers who are held only by law," says Colley, "yes, they'll go below" fair trade minimum levels. But, he says, an oil company should not have to rely on the courts alone to maintain fair trade prices in the state. More than 90% of Atlantic's dealers have signed a fair trade contract.

"We rely on the courts only to allow us to set a minimum price," says Colley. "We don't want to hold dealers who won't act on this policy."

What's New
IN MARKETING

Tidewater Oil Co., continuing its expansion campaign in the Southeast (PW—Mar.18'60,p88), has gained outlets in West Virginia for the first time, and has expanded its representation in Maryland and Virginia.

This expansion results from the appointment of Ralph E. Jones, of Hancock, Md., as a branded distributor.

Jones, who formerly marketed the products of a competing major brand, adds 17 retail outlets and 153 heating oil accounts to Tidewater's territory.

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Several distributors are implicated in an investigation of a gasoline swindle in Coffeyville, Kan. Approximately 1.5-million gal. of gasoline have been reported stolen.

One distributor says he bribed dock workers at the Co-operative Refinery Assn. plant with $5 and $10 tips, in addition to whiskey and cigarettes.

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Texaco Canada Ltd. will open the first of several planned "sky service centers" around July 1, at Dorval Airport, Montreal.

The centers will provide conference rooms, lounges, and special facilities for pilots of private and business aircraft.

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Site Oil Co., large private brander headquartered in St. Louis, plans to construct a 20-story office building in Houston.

Site, which markets from Ohio to New Mexico, is believed preparing for a shift of a major portion of its administrative staff to the new building.

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Another company has introduced a device for speeding up automobile grease jobs, and says the same approach can be used for oil drains.

Climax Molybdenum Co. is testing an auto lube system that features a master grease fitting mounted under the hood. It is connected by nylon hoses to all lubrication points.

The principle of this one-fitting grease system could be applied to motor oil as well, the company believes.

E. E. Smith, manager of the company's chemical division, says his system would cost less than reservoir-type grease units (which are activated by the motorists).

IRAQ: Uninterested in World Proration

(From PETROLEUM WEEK's Middle East Bureau)

BAGHDAD—The government of Iraq—a key Middle East oil producing state—is not expected to go along with any proposal at present for an international compact to prorate crude production.

This is the opinion of authoritative oil sources in Baghdad. They express doubt that, for now at least, Iraq's Premier, Gen. Abdul Karim Kassim, will want to join in any proration plan.

The proposal recently outlined in the U.S. and Venezuela by Saudi Arabian oil director Abdullah Tariki, calls for net oil exporting countries to prorate production to world market demand, with each country's export quota to be based largely on its reserves (PW—May6'60,p15).

Iraq is the only major Middle East oil exporter that has increased its ratio of production to reserves in the past ten years (PW—May13'60, p13).

All signs so far indicate that government officials want this trend to continue, the Baghdad sources say—at least until Iraq has completed planned industrial and other development projects.

Neither Iraqi Premier Kassim—who takes a direct interest in oil policy matters—nor present top oil officials have been officially approached on the prorationing proposal by Tariki.

Tariki most likely discussed production controls with Abdul Aziz Wattari, Iraq's delegate to the Arab League Petroleum Experts' Committee meeting held in Jiddah last October. Wattari, however, is not a top policy-maker at present.

At any rate, according to informed sources, the question has not come up in any top-level oil policy discussions in Iraq.

Baghdad may not oppose production controls—eventually. But for some years, at least, it wants its oil output pushed upward, rather than downward.

The feeling in Baghdad is that Iraq will have to catch up with its neighbors in boosting its revenues in proportion to social and development needs first, before it can think of prorationing.

For the present, increased oil exports are the only way for Iraq to meet expanding government expenditures for social, health, and educational services and for industrial and agricultural projects.

Consequently, Baghdad still wants to see Iraq's oil export capacity boosted to 1.4-million b/d by 1962—and to require the oil companies in Iraq to make full use of it.

This aim, oil sources say, will be maintained regardless of whether the companies in the internationally-owned Iraq Petroleum Co. group are willing—or able—to meet the government's oil export target.

The government has not revised this target—despite the world's current surplus producing capacity, the threat of new North African oil sup-

IRAQ: Climate Seen Improving Somewhat

(From PETROLEUM WEEK's Middle East Bureau)

BAGHDAD—Iraq's recently improved political climate is having a beneficial effect on the Iraq Petroleum Co. group in its day-to-day relations with the Oil and Finance Ministries, according to authoritative sources here in Baghdad.

Although Baghdad's relations with the internationally-owned IPC group have consistently been termed "correct" since the revolution in 1958, it was no secret that IPC was having innumerable difficulties, both in its day-to-day dealings with government departments, and in field operations.

The improved situation results from recent efforts of Premier Abdul Karim Kassim and the Army to curb Communist influence, in urban and rural centers, and also in government administration and labor unions.

This marks a big improvement over the situation of a year ago, when nearly all of northern Iraq, including the Kirkuk oil center, was under virtual Communist rule.

For the oil companies, the turning point came when Soviet-oriented Ibrahim Kubba was ousted from the Cabinet earlier this year (PW—Feb. 26'60,p54). Kubba, said to have been the spokesman for the Communists in the Cabinet, was Economy Minister first, then Industry Minister and Acting Oil Minister.

As things stand now, IPC is said to be more secure and better off than at any time since the 1958 revolution.

No one in Baghdad, however, will speculate on the longer-range outlook for IPC and other Western business interests—despite the new trend toward moderation and stability.

It all depends on Gen. Kassim, it is said. And Kassim is still considered very much an enigma.

For now, however, a better atmosphere exists for resumption of talks between IPC and Baghdad on long-outstanding questions, including acreage relinquishments.

Authoritative sources say no top-level discussions have taken place in recent months on Iraq's demands for modifications in IPC's operating arrangements. The Iraqis have made several counter-offers in reformulating their original demands. But essentially, the situation stands about where it did last fall—stalemated on the size and location of concession areas IPC will give up.

The government, meanwhile, gives signs of shelving its plans to refine for export (PW—Sep.25'59,p84).

IPC had already agreed to the government's exporting of "incidental" surpluses of products from existing state refineries.

According to plans announced last year, the Oil Ministry was considering operation of the plants at full 60,000 b/d capacity to permit exporting the surplus over domestic demand, which was then about 25,000 b/d.

Since then, the Iraqis have been trying to export such products to Asian states through various brokers. So far, however, they have met with little success.

Iraqi authorities are now said to hold the view that Iraq's only major

—at Least Now

plies, and the international production control proposals.

One important reason is that Iraq's budget shows a deficit for the fourth straight year.

For fiscal 1960, the estimated deficit is $39.2-million. Expenditures are at a record level of $325.3-million—$59-million above fiscal 1959. Iraq's recently published budget law provides that the Economic Planning Board is to get at least 50% of the government's oil revenues.

In an accompanying memo, the finance ministry said fiscal 1959 was characterized by "continued efforts to increase oil exports from Iraq." All other exports had dropped, the memo said, owing to an adverse agricultural season and the world price slump.

Further, the government still plans to spend a total of over $1-billion on development projects for the fiscal years 1959-62.

This is the sum allocated in the Interim Economic Plan decreed last year.

for Oil Firms

refinery, near Baghdad, is not in a competitive position for export of surplus products to world markets.

The reason is that—unlike the Middle East export refineries located right at the Persian Gulf—Iraq's Daura plant has only very limited export facilities.

Informed sources also now discount reports of 90-10 profit-splitting offers to Iraq by the Soviet Union for exploration of areas not under concession.

These include the small Persian Gulf offshore area surrendered by IPC, the inland Khanaqin concession that British Petroleum relinquished, and any other tracts that IPC may give up.

The general belief in Baghdad oil circles is that the Russians are interested neither in profit-splitting deals nor in straight drilling contracts for the Iraqi government.

It's more likely, oil circles feel, that the Russians will keep up their offers to provide Baghdad with experts and equipment under their economic and technical aid agreement.

Stanvac Business Booms— Except in Profits Column

Everything's going up at Standard-Vacuum—everything, that is, except the profit level.

This was revealed in the latest issue of "Stanvac Meridian," company house organ.

Stanvac is jointly owned by Standard Oil Co. (N. J.) and Socony-Mobil Oil Co., each of which holds a 50% interest. Its sphere of operations is the Far East.

Caught in the vise of rising costs and competitive pressures resulting from the world oil surplus, Stanvac earned only 2.7% on gross income last year, it reported.

In 1957, the company netted 4.3% of gross. Even in 1958, a recession year in the Far East, the firm posed a 2.8% return on its gross income—0.1% higher than 1959.

The dollar volume of net income for 1959 went up $1.6-million from 1958 to a total of $28.3-million.

The low return on gross last year was posted even though the company chalked up records in production, tanker tonnage, refinery runs, and sales.

Some highlights of those records:

- Production from fields in Indonesia and western New Guinea rose to a high of 84,000 b/d.
- Tanker tonnage at year's end was 1,208,400 deadweight tons, including 30 ocean and coastal vessels owned by Stanvac, and 35 others under period charter.
- Volume of sales in 1959 rose 11% over the 1958 level to an average of 292,000 b/d. The sales rise brought a 7% boost in total revenues.
- Throughput at Stanvac's six refineries rose 13% over the 1958 level, to 234,000 b/d.

Refinery facilities under construction, on the drawing board, or being considered by the end of the year outnumbered existing company facilities.

On the other hand, exploration continued unfruitful, Stanvac said.

The only discoveries were a "sizeable" gas field in West Pakistan and a small gas field in Papua. Both are shut in, however, since no practical commercial outlet is yet available.

The company terms the 1950s "a decade of unparalleled expansion and diversification in most of its areas of operations."

Some highlights:

- Sales jumped 175% between 1950 and 1959.
- Assets were expanded 147% by new investments. This required a record expenditure of $762.7-million, of which $684-million went for capital investment and the rest for added working capital and other assets.
- About 35% of the capital expenditure—the largest share—went for modernization and construction of distribution and marketing facilities.
- Refinery throughput was nearly quadrupled during the 1950s. Some $196-million was spent on new refinery facilities, which permitted the company to supply 80% of its marketing needs from its own plants by 1959—as against 57% in 1949.
- "Development of the Lirik fields in Central Sumatra proved the key to the company's moderate but steady increase in crude oil production," despite a decade in which it added no new oil reserves through exploration.
- The company's total tax bill amounted to more than $2-billion during the decade, 98% of which went to governments in the countries in which Stanvac operates.

"The amount was more than 2½ times as great as the total funds generated by the company and available for use in its own operations."

Iran Opens Oil Office In New York City

The National Iranian Oil Co. last week opened a New York office, with Abbas Ghaffari as manager.

The new office, in the Time & Life Building, will coordinate the firm's technical training program in the U.S., handle recruitment of personnel, and disseminate information on Iranian oil matters.

The government-owned NIOC reports that it intends to increase its commercial relations with American firms and to explore possibilities of technical consultations with American experts.

Shell's Returns Dwindle in Venezuela

CARACAS—The Venezuelan government's take of Shell's profits last year increased to 68%, leaving the company only 32%.

In its annual report, just issued in Caracas, Venezuela's second-biggest producer showed a net profit after taxes of only $127-million in 1959. This was down from $133-million in 1958, and from Shell of Venezuela's peak profits of $297-million in 1957.

Though the government's percentage share increased, its actual take continued to decline.

Shell's payments to the government dropped to $267-million, from $270-million in 1958 and $304-million in 1957.

In the years 1943-59, Shell's payments to the government totaled $2.2-billion. The profit-sharing ratio for that period averaged 56% for the government, 44% for Shell.

Shell's return on its investment in Venezuela slumped to only 12% in 1959, compared to 32% in 1957.

The company's previous peak was 33% in 1948. Its average return over the 1943-59 period was 16%.

The 12% return in 1959 was described in Shell's report as "inadequate."

As a result, Shell slashed its new capital investments in 1959 to $125-million, from $206-million in 1958.

Its previous highs were in 1956 and 1957, when investments were $256-million and $229-million respectively.

Shell attributed the 1959 cut in investment to "the lower net profit which the company now receives after deducting taxes, since profits do not represent an adequate return on capital."

Net capital investment rose to a peak of $1.1-billion in 1959, averaged over the year. Gross investment since 1943, including concession payments, was nearly $2-billion. Of that amount, Shell's report said, only 51% was financed out of depreciation and amortization reserves. The remaining 49% came out of profits or was supplied by stockholders.

In an apparent reference to Venezuelan government proposals for income tax allowances on reinvested profits, J. A. Warder, president of Shell of Venezuela, said, "Certain propositions are under consideration and discussion with the competent authorities. It is hoped that adoption of these measures will be achieved, in order to reduce the effective costs of crude and other products of the company."

Shell's annual reports gave other highlights of its 1959 results:

- Crude production jumped 17% to 798,290 b/d.
- Sales of crude and products climbed 15% to 873,303 b/d.
- By the end of 1959, Shell had 200,100 b/d of shut-in crude producing capacity.
- It reduced the number of its employees to 16,101, from 16,606 at the end of 1958, with further cutbacks anticipated as "inevitable."
- Development concessions were reduced by 68,000 acres, to just under 1.9-million acres.
- Of 49,400 acres of exploration concessions held at the beginning of 1959, a small part was converted to development, and the rest turned back.

Aminoil Moves into Germany

BONN — American Independent Oil Co. and Swiss marketer Gottlieb Duttweiler will start refining and marketing in West Germany this summer through a new company based at Emden, on the North Sea.

The company is Erdoelwerke Frisia A. G., whose new 30,000 b/d refinery will be ready to start production in August. The company expects to get into export sales, as well as marketing in Germany itself.

Aminoil, with 10%, and Migrol, Duttweiler's Swiss marketing organization, are the two biggest shareholders in Frisia—out of a total of some 27,000.

Aminoil, in addition to its ownership stake, also holds a long-term contract to supply crude to Frisia.

The company was organized three years ago by Duttweiler, who at the time held out to small German investors the promise of cut-rate gasoline prices like those of Migrol in Switzerland. (Since then, Migrol has increased its Swiss gasoline prices, which are currently higher than those of the majors there.)

The new company will start refining in August at 50% of its 30,000 b/d capacity, increasing to full capacity in October.

Primary output of the refinery, built by Ralph M. Parsons Co., of Los Angeles, will be about 73% fuel oil, 12% diesel oil, and 10% gasoline.

Aminoil will supply 24,000 b/d of its Neutral Zone crude to Frisia, with liftings at the Persian Gulf to start in July.

For the balance of runs, Frisia will probably use some lighter German crude.

The new company hopes to export fuel oil. It also expects to have about 20 company-owned gasoline stations in Germany by August, and outlets at 200 others. It has already opened some of its own stations, mostly in southern Germany.

Mobile Platform Planned for Maracaibo

The first tender-assisted, mobile drilling platform to work in Lake Maracaibo, Venezuela, will go into operation soon on Mene Grande Oil Co. acreage.

Such platforms have not been used before in the lake because of the soft mud bottom. But recent bridge construction work there with a similar platform demonstrated their suitability, the manufacturer reports.

The unit can be used for stratographic tests, exploration or production drilling, and workovers, in water up to 105 ft. deep.

R. G. LeTourneau, Inc., Longview, Tex., will build the platform for Loffland Brothers Co., Tulsa, Mene Grande's drilling contractor.

What's New / AROUND THE WORLD

Mideast Oil Output Cut

Record oil output in key Middle East producing states was cut 220,000 b/d in April to a monthly low for this year of 4.7-million b/d. The four-month average, however, was still nearly 12% over 1959.

Saudi Arabia showed the only gain from March, while all others dropped. The totals, in 000 b/d:

	Apr. '60	Mar. '60	Apr. '59
Kuwait	1,459.3	1,600.2	1,580.7
S. Arabia	1,210.6	1,175.3	1,043.1
Iran	968.0	1,065.0	866.0
Iraq	922.4	934.8	810.9
Qatar	171.1	179.5	173.7
Total	4,731.4	4,954.8	4,474.4
4-Mo. avg.	4,828.7	.....	4,325.4

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JAPAN—Japan's Arabian Oil Co. is proposing to set up a refinery in Japan as an outlet for its Neutral Zone crude. Location would be Osaka, and the refining company reportedly would be financed jointly with Kansai Electric Power Co.

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VENEZUELA—The government is broadening the scope of its study on possible tax allowances for reinvested profits of oil companies to stimulate investment.

The Oil Minister last week specifically cited refining, secondary recovery projects, and transport (such as acquisition of new tankers)—as well as exploration—as examples of activities for which tax allowances are now being considered.

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SPANISH SAHARA—Gulf Oil will drill an undetermined number of 1,500-ft., slim-hole stratigraphic tests with a full-sized rig scheduled to arrive here early next month. The tests will be drilled in Blocks 47 and 51, central Spanish Sahara.

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JAPAN—Russia is dickering with a Japanese firm for purchase of $60-million worth of 30- to 40-in. pipe for the Irkutsk-Nahotoka oil pipeline.

Negotiations between the Russian embassy and Japan Steel & Tube Corp. are reported stymied because Russia is asking seven-year deferred payment and the Japanese are offering five-year terms.

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BRITISH WEST INDIES—An exploration license for Grand Cayman Island has been granted to Harry T. McClain, Houston, and a West Indies businessman, E. D. Merren, of Georgetown, Grand Cayman.

McClain says the first of four tests will be drilled on the northwest side of the island, which is 180 mi. northwest of Jamaica, within 40 days.

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SAUDI ARABIA—A 20,000 b/d refinery is to be built by the end of 1962 near Jiddah for a new Saudi company by Ralph M. Parsons Co., of Los Angeles, which also will operate it for 15 years.

The new Saudi Arabian Refining Co. (Sarco) was formed by members of the Saudi royal family, Jiddah businessmen, and the Riyadh Bank, who have subscribed half its stock. The other half is being offered to the Saudi public. Sarco has just been granted an exclusive refining concession for western Arabia, which last year consumed 3.2-million bbl. of products from Aramco's Ras Tanura refinery, the sole present plant in the country.

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PORTUGUESE GUINEA—Esso's first wildcat will be spudded about Oct. 1 in this West African territory. Drilexco, Dallas, has been awarded the contract, and will ship equipment from Malta by late Summer.

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LIBYA—British Petroleum has spudded two new wildcats 800 mi. apart at opposite ends of Libya. They are A-1-80, first hole to be drilled in Block 80, in western Cyrenaica; and B-1-34, second wildcat on Block 34, near Tripoli. The first one was dry.

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GUATEMALA—A mixed group headed by Phillips Petroleum is set to build a 12,000 b/d refinery to process Venezuelan crude in Guatemala (PW—Mar.18'60,p80).

A license has been granted to Refineria Petroleos de Guatemala, in which Phillips has a 38% interest. "Some" stock is held by Oronzio Dinora, an Italian chemical manufacturer, and the rest by Guatemalans, according to Repegua president Rudy Weissenberg.

•

LIBYA—Oasis Oil has brought in two oil wells, extensions of the Dahra field in Block 32. F-7-32 flowed 2,000 b/d of 42-gravity oil from around 3,150 ft. and F-8-32 was completed at 3,210 ft. Rate of flow was not reported. The field now has seven producers.

•

USSR—Soviet refining capacity is slated for a boost to nearly 5-million b/d by 1965—more than doubling 1959 capacity of 2¼-million b/d, according to reports in Vienna. Most of the new capacity is to go into the Volga-Ural area. Two large plants are also slated for the Irkutsk region.

•

WEST GERMANY—Oil imports in the first quarter jumped 48% over the same period of 1959, to 7.7-million tons, including 2.6-million tons of refined products. Saudi Arabia and Iraq were the main crude suppliers.

•

ISRAEL—Two deeper gas-bearing formations have been found in the Zohar gas field in Judea, below the 3,700-ft. producing zone of the five wells completed so far. Naphta Co. says it found shows of gas at 3,811 ft. and at 4,488 ft. in its No. 6, which will be carried to 6,000 ft. before testing.

Saudis to Study Venezuelan Oil

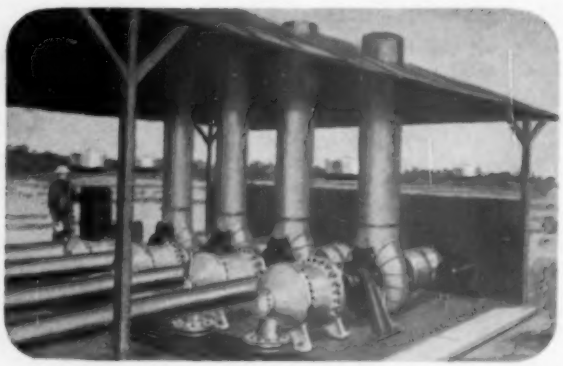
CARACAS—Saudi Arabia has sent its first oil official to Caracas under a technical exchange program with Venezuela.

Mohammed Joukhdar, of the Saudi Petroleum Directorate, will spend several months studying Venezuela's oil operations. Another scheduled to arrive soon is Hisham Nazer, also of the Saudi oil directorate.

Petroleum industry benefits with Solar turbomachinery

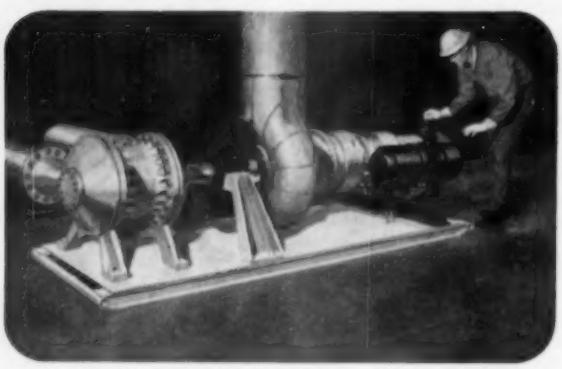
1. Easily transported

Because they are smaller and lighter than conventional power plants, Solar gas turbines are easily transported for original installation, or to a central shop for periodic maintenance. And the basic power plants, or generator sets, compressor units, and similar applications, can be inexpensively adapted for portable use.



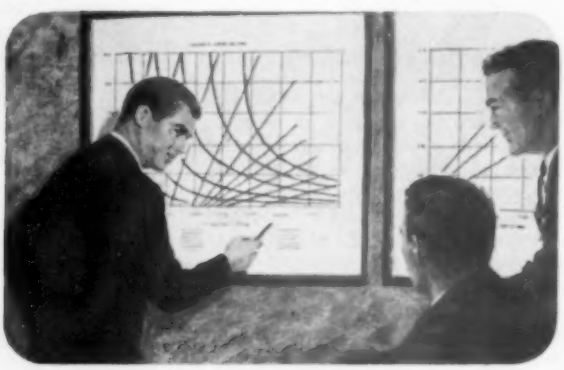
2. Low cost installation

The same light weight and small size that makes transportation simple, also cuts the cost of installing Solar gas turbines and turbomachinery. Minimum vibration makes possible skid mounting or the use of present light foundations – you avoid heavy construction costs and install these units quickly without special labor requirements.



3. Simple maintenance

Solar gas turbines are simple in design, with few moving parts. They are easier to maintain than diesel or gasoline engines. Down time is cut to a minimum. Features such as interchangeable compressor wheels in Solar compressor units make quick field changes possible. Solar turbomachinery is designed for long, trouble-free life.



4. Low over-all cost

Whether you consider the capital cost of installed horsepower, or operating and service costs per installed horsepower, you will be pleasantly surprised when you measure Solar gas turbines against competing installations. We'll furnish the facts and figures you need on request. Solar builds turbines and turbomachinery to rugged industrial standards, for electrical power generation, gas compression, pumping, boat and vehicle propulsion, and for many special applications. Solar gas turbines range in size from 50 to 1250 hp.

You should investigate the profitable use of Solar gas turbines and turbomachinery. Write to Solar Aircraft Company, Dept. H-128, San Diego 12, Calif., for brochures or for information about specific applications.

SOLAR
AIRCRAFT COMPANY

CRUDE moved from producing areas by railroad tank cars will be transferred to pipelines at Clearbrook, Minn., as . . .

Railroad, Pipelines Set Joint Tariff

Crude will move from North Dakota and Montana to refineries under precedent-setting rate.

The Soo Line R.R. and Minnesota Pipe Line Co. have joined forces to set a combined rate to move crude from North Dakota and Montana to Minneapolis-St. Paul refineries. It's the first such joint rate ever to be filed with the Interstate Commerce Commission.

"In checking with the commission's files, we were given to understand that the Minnesota Pipe Line tariff was the first to provide for a through single-factor rate using rail and pipeline," says K. J. Sherwood, general freight traffic manager for the Soo Line (Minneapolis, St. Paul & Sault Ste. Marie R.R. Co.)

The rate went into effect on May 28. First movement of crude, on May 30, amounted to 34 cars.

Soo expects initial shipments to average from 25 to 30 cars a day, and hopes that they will increase "substantially" in the future.

The single charge from field to refinery is a flat 70¢ per bbl., as compared with the 84¢ per bbl. previously asked by the Soo Line to haul all the way by rail.

Under the terms of the joint tariff, the railroad transports the crude to Clearbrook, Minn. (map). From there, Minnesota Pipe Line carries it to refineries at St. Paul Park and Pine Bend, Twin Cities suburbs.

Principal recipient of the crude reportedly will be Northwestern Refining Co., at St. Paul Park. Great Northern Oil Co., at Pine Bend, will also take shipments.

Next Wednesday, the Soo Line plans to put the same 70¢ tariff into effect, in conjunction with Lakehead Pipe Line Co., on crude shipped to Superior, Wis., and Wrenshall, Minn. Under this second joint-tariff agreement, crude will also be delivered to the pipeline at Clearbrook.

A substantial portion of this crude may come from the area around Outlook Field, Sheridan County, Mont. One of the major producers expected to use the new rate is Murphy Corp.

Refineries that will take the shipments, according to the Soo Line, are Western Fuel & Oil Co., at Wrenshall, and Lake Superior Refining Co., at Superior. The latter is owned by Murphy Corp.

The joint rates are seen as a move to meet threatened tighter competition by Great Northern Ry. Co., which has been authorized to build a pipeline system from the Newburg and Lignite Fields to Minot, N.D. (PW—May13'60,p49).

A Soo Line spokesman notes that this is the first time crude from North Dakota and Montana has been carried in volume by Minnesota Pipe Line, which has handled mainly Canadian crude coming through the line from Interprovincial Pipe Line Co.

Growing crude production in North Dakota, he says, has prompted several proposals for new pipelines.

Minnesota Pipe Line itself, through its Canadian subsidiary, Northern Pipe Line Co., wants to build a line from near Regina, Saskatchewan, to Clearbrook for Canadian, and possibly Williston Basin, crude (PW—May 20'60,p53).

Another proposal is that of Matador Pipe Line Co. for a line to move crude from northern North Dakota to the Interprovincial system, and thence to Clearbrook and the Twin Cities.

The Soo frankly admits that it took into account the possibility of a pipeline linking fields and refining centers in offering its new combined, reduced rate.

Of all the current plans for new pipeline systems, Great Northern's appears to carry the greatest threat to the Soo.

When it first sought approval for its proposed system as far as Minot, Great Northern said that ultimately it hopes to build lines all the way to Minneapolis-St. Paul, and to Duluth and Superior.

While Great Northern has not yet begun its pipeline system, it is getting ready to drop its rail rate to Minneapolis-St. Paul to 69.7¢ a bbl. Its present rate, like Soo's, is 84¢.

By paring its tariff a fraction of a cent under its competitor's new joint

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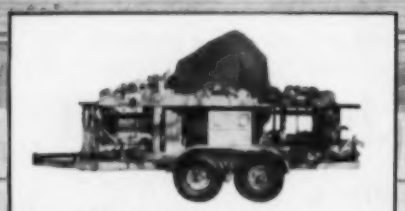


In road-ready position, unit is compact and completely mobile. Comes on 4-wheel tandem trailer or on steel skids. With 80 feet of pipe-handling trackage.

New Polyken tape method handles ¾" to 4" pipe, cleans and coats 2,500 feet per hour and sets up anywhere

Probably the best thing about the Betzel taping machine and Polyken tape is the absence of all the nasty problems of hot dope. The highly mobile "Betzie," developed jointly by Polyken and A. E. Betzel, sets up in an hour (comes down in half the time).

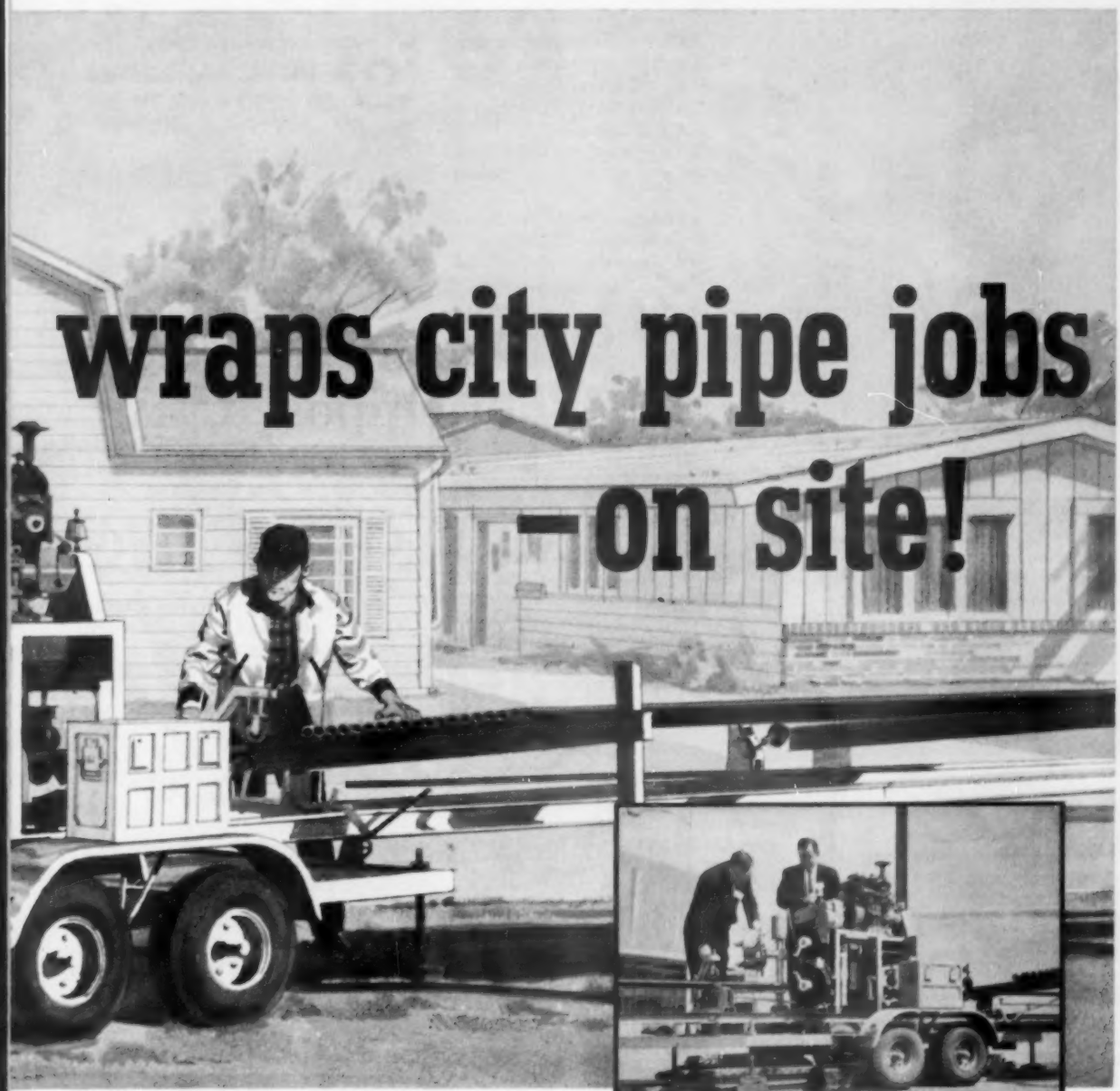
With only 6 men, or less, you run a continuous cleaning, coating and wrapping operation that processes 2,500 lineal feet per hour. Takes only 10 minutes to switch pipe sizes. And the savings? Well, just compare the time, labor, and small investment against the average hot dope operation.

The practical Polyken way

With Polyken tape you know the coating is always ready. Goes on factory-smooth, too. No primer, no drying or cooling time. No fumes or fire hazards.

What's more, permanent Polyken tape can take almost anything—as already proved by its many hundreds of miles and years of hard work. It's being used in such tough terrain as the

wraps city pipe jobs —on site!



Iranian desert, Canadian cold, Florida swamps and southern California mountains.

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As the pipe spins through the "Betzie," twin powered brush heads afford dynamic cleaning—as shown in this demonstration at the 1960 N.A.C.E. meeting in Dallas, Texas. Other standard equipment includes twin brake-type tape and outer wrap spindles for rapid change of rolls, and an adhesive attachment for fast-gluing outerwrap.

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tariff, Great Northern hopes to hold on to its business in the Lignite-Rival field, from which it hauls perhaps 60% of the crude produced. According to one rough estimate, the Soo moves the other 40%.

The Soo line is confident that refiners will be willing to pay the extra 0.3¢ a bbl. to have their crude delivered directly to their plants by pipeline.

The railroad figures that this service should be worth about 5¢ a bbl. to the refiner.

Actually, Great Northern now has a request before ICC to offer its new rate "on short notice," which means on notice of from one to ten days.

As of late last week, ICC hadn't as yet granted the request.

Nonetheless, Great Northern said, it plans to put the tariff into effect about June 20.

C. E. Finley, Great Northern's vice-president in charge of traffic, says the new Soo-Minnesota Pipe Line rate is apparently "an attempt" to counteract his company's pipeline plans.

The status of these plans, says Finley, is that they are still under study.

The combination rates mark the second time this year that the Soo Line has instituted a precedent-setting tariff.

Sliding guaranteed rates for transport of heavy fuel oil from Superior to iron mines in Upper Michigan are expected to go in operation on June 25 (PW—Mar.25'60,p16).

Approval of the rates was granted by the Western Trunk Line Committee in March.

Canada LPG Export Plan Opposed

Hearings in Alberta crackle with criticism of Westalta proposal for first leg of line.

Opposition mounted last week to the plan of Westalta Products Pipe Line, Ltd., to build a byproducts system in Alberta as the first leg of a Canada-U.S. pipeline.

Hearings before the Oil & Gas Conservation Board opened on Monday in Calgary, and adjourned at midweek. They will be resumed next week.

Last week's hearings were marked by counterproposals for new facilities to gather and transport the surplus liquids that will be produced along with the newly approved gas exports, and by conflicting opinions as to the wisdom of attempting to invade the U.S. market with liquids in the first place.

Interprovincial Pipe Line Co., whose crude line runs through the U.S. for part of its way to Toronto, told the board that using an existing transmission line would be cheaper than building a new one all the way to the U.S.

As originally proposed, the Westalta system was to link with a pipeline to be built by Foothills Pipe Lines, Ltd., from the Alberta-Saskatchewan border to the North Dakota border (PW—May20'60,p52).

Later, it was reported in Alberta that Westalta might connect its proposed system with Interprovincial's line (PW—May27'60,p34).

This possibility was not mentioned at the hearings. An Interprovincial spokesman did say, however, "We feel that any gathering system should be so designed as to be able to deliver products to a receiving point on an existing trunk line system capable of carrying them."

He intimated strongly that Interprovincial's line could be utilized for this purpose.

He added, "It would seem only logical to expect that the united cost of transportation over an existing system, such as Interprovincial's, which already has reserve capacity, is bound to be appreciably lower than the unit cost resulting from the construction of completely new facilities. . ."

Issue was also taken with Westalta's plans to connect extraction plants and refineries of British American Oil Co., Ltd., with its system.

In outlining its plan for the construction of its proposed over-all system, Westalta said that the first stage would include lines connecting B-A's plants at Pincher Creek and Dick Lake to its refineries at Calgary and Edmonton, respectively.

At this point, a British American spokesman asked Westalta if it was aware of a plan of Britamoil Pipe Line Co., Ltd., a subsidiary, to build lines from the same plants to the same refineries.

A Westalta spokesman replied simply that his company did know of the plans.

Home Oil Co., Ltd., objected to the Westalta plan on the ground that it "might have the effect of making the U.S. restrict Canadian crude exports."

The Home Oil spokesman added that the Westalta system should not be approved unless assurances can be obtained, that liquids exports "would not detrimentally affect the marketing of Alberta crude in the U.S., either in respect to price or quantity."

Home Oil has oil and gas production in the province, and also operates pipelines from Sundre to Calgary and from Swan Hills to Edmonton.

Guarantees were also demanded that sufficient liquids be reserved for present and future home consumption.

A spokesman for Canadian Chemical Co., Ltd., said, "If and when large-volume removal of LPG is permitted from the province, it is essential to insure that adequate supplies are available for processors now located in Alberta. In determining the quantities that should be reserved in the public interest for this purpose, there should be kept in mind the probability that present industrial users, including Canadian Chemical Co., may expand their present operations."

Some Canadian producers have estimated that by 1962 the province should be producing about 92,000 b/d of liquids.

At the same time, they figure, total Canadian demand is expected to be only 23,000 b/d.

Canadian Chemical did not make any firm predictions as to future Alberta demand.

Hudson's Bay Oil & Gas Co. objected to the proposal on the ground that existing pipelines—including its own Rangeland system—could gather the gas liquids.

Representatives of several other companies were at the hearings, but withheld comment—at least temporarily.

Among the companies represented were Triad Oil Co., Ltd., Trans-Canada Pipe Lines, Ltd., and Provincial Products Pipe Lines, Ltd.

Trans-Canada has said it's considering shipment of LPG through its natural gas line.

Provincial, like Westalta, is seeking approval for a gathering and transmission system in Alberta.

What's New
IN TRANSPORTATION

Oral arguments have been scheduled by the Federal Power Commission on several major pipeline expansion proposals.

On July 6, FPC will hear arguments on the applications of Pacific Gas Transmission Co., El Paso Natural Gas Co., and Montana Power Co. to build lines to import gas from Canada (PW—Apr.8'60,p23).

On that day, hearings will also open on projects of Northern Natural Gas Co. and Michigan Wisconsin Pipe Line Co., involving major construction by the former to enable it to initiate deliveries to the latter, and to boost current shipments.

And on June 16, FPC will hear the proposals of Peoples Gulf Coast Natural Gas Pipeline Co. and Natural Gas Pipeline Co. of America to enlarge their transmission systems (PW—Apr.29'60,p50).

•

Shell Pipe Line Corp. plans to extend its Delta pipeline to move crude from the West Delta Block 83 field and the Burrwood field, in Louisiana.

The project will include construction of 4.6 mi. of 8-in. line and 6.9 mi. of 6-in. line, plus five new pump stations.

•

Arkansas Louisiana Gas Co. has been authorized to build a 130-mi. natural gas pipeline from Perla to Helena, Ark.

The $7.8-million line will deliver gas to communities en route.

•

Engineering

An instrument that automatically adjusts the current in cathodic protection of pipelines as changes are required has been developed by Electro Rust-Proofing Corp., of Belleville, N. J.

Since the rate of corrosion of a pipe is affected by several variables—such as rate of deterioration of the pipe coating and temperature changes—adjustment of the current is necessary in order to give the pipe uniform protection.

Electro Rust-Proofing says its new device is sensitive to these variables and regulates the current accordingly.

The instrument can be adapted for use in existing cathodic systems, the company says.

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DEPT/Personals

REESE H. TUCKER has been elected vice-president of Cities Service Co., with offices in New York. In his new position, he will serve as coordinator of exploration and production for the Cities Service system. Tucker joined the Cities Service organization in 1930, and was named chief geophysicist of Cities Service Oil Co. (Del.), in 1948. He was most recently vice-president and a director of that company.

L. C. Ford

R. H. Tucker

LAWRENCE C. FORD is the new president of California Shipping Co., San Francisco, which manages the world-wide marine operations of Standard Oil Co. of California. He succeeds **A. E. Kihn,** who is retiring. Ford, who joined California Standard's marine department in 1938, has been superintendent of operations and assistant manager of that department. He was named vice-president of California Shipping when that subsidiary was formed in 1957.

SAM F. SHAKELY assumes the newly created position of manager of production for Anderson-Prichard Oil Corp., Oklahoma City. He will work directly with **Dr. R. W. Brauchli,** vice-president of exploration and production. Shakely joined Anderson-Prichard in 1948 as general superintendent. Before that, he was associated with Carter Oil Co., now the Carter division of Humble Oil & Refining Co.

S. F. Shakely

G. Staples

GEORGE STAPLES, formerly assistant to the production vice-president of Champlin Oil & Refining Co., Ft. Worth, has been promoted to manager of drilling and production. Staples, with Champlin since 1943, became superintendent of the production department in the Gulf Coast division in 1952. He has been assistant to the vice-president since 1956.

DR. FRANK L. PADGITT assumes the newly created position of director of project development for Tennessee Gas Transmission Co., Houston. His duties will be connected with the company's expansion and diversification plans in the field of hydrocarbons utilization and petrochemicals. He was formerly associated with Ethyl Corp.

C. STRIBLING SNODGRASS, Snodgrass Associates, oil consultants, Washington, D.C., has transferred his headquarters to London, England. Snodgrass Associates most recently completed studies on the utilization of gas from the Nahorkatiya field in northeastern Assam, and on extensions to the Sui gas pipeline system into the northern areas of West Pakistan.

HARRY W. MAGEE has been named special representative, European activities, for Gulf Oil Corp.'s petrochemicals department, with offices in London. He will be responsible for the investigation and development of petrochemical possibilities for Gulf in the European Common Market and the European Free Trade areas. Magee, who joined Gulf in Pittsburgh in 1931, was most recently manager of Gulf Eastern Co.'s manufacturing department, in London.

H. W. Magee

J. D. Willson

JAMES D. WILLSON becomes manager of finance for Tidewater Oil Co., Los Angeles, succeeding **Russell D. Richardson,** vice-president-finance, who is retiring. Willson, who joined Tidewater last year, will also continue as controller.

N. B. INGRAM, FLOYD L. MILES, and **FRANK FULENWIDER** have been elected vice-presidents of DX Sunray Oil Co., Tulsa. Ingram, formerly general sales manager, is now vice-president of retail sales, including all branded jobber operations. Miles is the new vice-president for wholesale marketing, and Fulenwider is vice-president for products supply and transportation. Miles was formerly general manager of wholesale sales, and Fulenwider was general manager of products supply and transportation.

HARRY MILLER has been promoted to manager of production for Continental Oil Co.'s central region, with headquarters in Oklahoma City. Miller, formerly assistant regional manager of production there, succeeds **R. G. Parker,** who was promoted to assistant general manager of the central region. Miller, who joined Conoco in 1927, became division production superintendent at Midland, Tex., in 1948, and five years later was promoted to assistant production manager at Oklahoma City.

RALPH V. JOHNSTON is the new vice-president in charge of sales for Frontier Refining Co., Denver. He succeeds **William R. Seuren,** who moved to Toronto with Canadian River Oil Co., subsidiary of Murphy Corp. Johnston, with Phillips Petroleum Co. for the past 23 years, resigned as Denver district manager in charge of sales.

FRANK C. RYLANDS has been appointed chief representative in Iraq for the Iraq Petroleum Companies. He will also continue to hold his position as executive director of Iraq Petroleum Co., in London. In his new position, he succeeds **R. G. Searight,** who returns to Shell Petroleum Co., Ltd., in London.

E. F. McMULLIN, president of Rayflex-Marine, Inc., has been elected president of the Dallas Geophysical Society, succeeding **Henry F. Dunlap,** Atlantic Refining Co. Other new officers of the society are: **Frank J. McDonal,** Mobil Oil Co., and **Edward J. Jasinski,** Atlantic, vice-presidents; and **Stuart C. Mut,** Atlantic, secretary.

MAX C. GOVIER has been elected vice-president and a director of Home Oil Co., Ltd., Calgary, and **Ronald B. Coleman** has been appointed secretary. Govier has been treasurer, and Coleman a staff lawyer.

J. M. RIDDELL, Gulf Oil Corp., Denver, is the new president of the Colorado Petroleum Council. **Collis P. Chandler, Jr.,** president of Chandler & Simpson, Denver, is first vice-president, and **C. O. Dunstan,** The California Co., Denver, is secretary-treasurer. Riddell was formerly first vice-president for the council, and Chandler was secretary-treasurer.

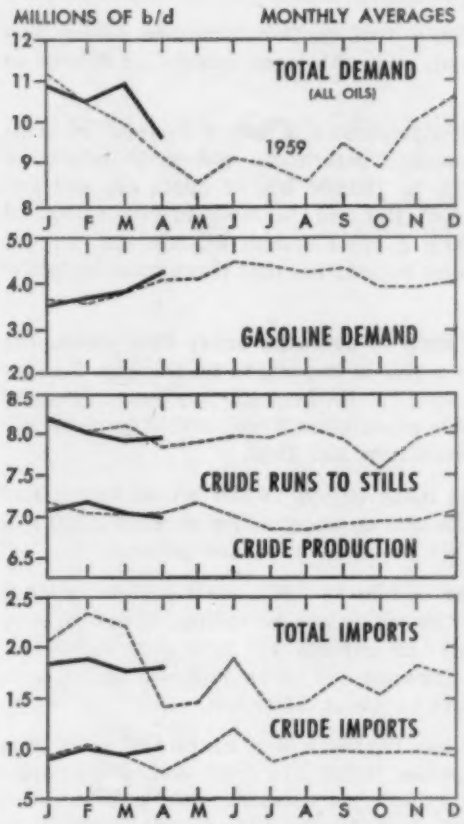
D. E. Stines

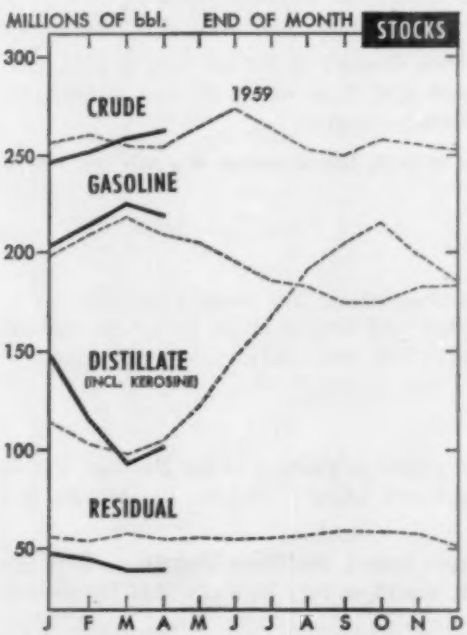
L. D. Stinebower

L. D. STINEBOWER has been elected treasurer of Standard Oil Co. (N. J.), and **D. E. STINES** becomes executive assistant to **Leo D. Welsh,** recently elected Jersey chairman. Stinebower was formerly executive assistant to the chairman, and Stines was formerly vice-president and a director of Creole Petroleum Corp., an affiliate. Stinebower succeeds **E. G. Collado,** who was recently elected a Jersey director. **J. R. White,** president of Imperial Oil Ltd. of Canada, another affiliate, is also a new Jersey director.

PETROLEUM WEEK'S

Fingertip Figures





Supply-Demand Figures for May

(millions of b/d)

	May 1960	% Change from year ago	5 Months 1960	% Change from year ago
Total Demand (Inc. Exports)	9,116	+ 5.9	10,223	+ 2.6
Gasoline	4,354	+ 3.8	4,003	+ 1.7
Distillates (Inc. Kerosine)	1,528	+ 8.3	2,091	—17.3
Residual	1,410	+ 5.1	1,813	—22.7
Total Supply	9,348	— 2.2	9,872	— 1.3
Domestic Crude	6,809	— 5.7	7,080	— 1.9
Nat. Gas Liquids	890	+ 3.6	928	+ 6.1
Total Domestic	7,699	— 4.7	8,008	— 1.0
Crude Imports	1,030	+ 9.8	992	+ 8.7
Total Imports	1,649	+11.2	1,864	— 2.5

Figures for period ended June 3, except as noted

RUNS TO STILLS

Latest week	7.961
Previous week	7.899
Year ago	8.024

CRUDE PRODUCTION

Latest week	6.781
Previous week	6.815
Year ago	7.031

TOTAL IMPORTS

Latest week	1.687
Previous week	1.573
Year ago	1.384

CRUDE IMPORTS

Latest week	1.139
Previous week	.984
Year ago	.857

CRUDE STOCKS

Week-ended 5-28	259.7
Previous week	260.5
Year ago	262.5

GASOLINE

Latest week	209.9
Previous week	211.7
Year ago	203.8

DISTILLATES

Latest week	121.4
Previous week	115.9
Year ago	127.5

RESIDUAL

Latest week	39.7
Previous week	40.0
Year ago	55.6

It seems that the bright May sun cast its rosy glow on oil industry operations, too. Demand was up a comfortable 5.9% over 1959.

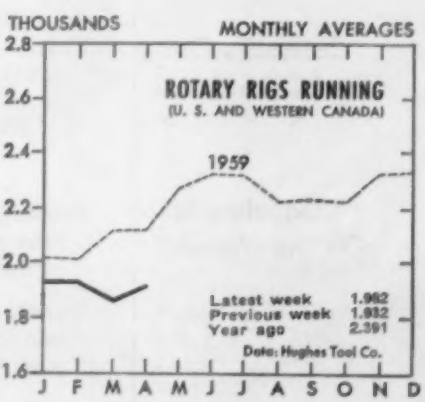
Total demand for the month increased 507,000 b/d over a year ago, to a total of 9,116,000 b/d. It was the best May on record for demand.

For the first five months of the year, total demand passed the 1959 average by 258,000 b/d, a healthy increase of 2.6%.

Evidently, the sunny skies brought motorists out in droves. Motor fuel demand scored a 3.8% increase over last year.

Gasoline demand for May was 161,000 b/d higher than a year earlier, and for the five-month period it outstripped 1959's total by 66,000 b/d.

The withdrawal from gasoline stocks wasn't spectacular. Gasoline stocks fell 19-million bbl. during the month. In May of last year, only 6-million bbl. were drawn from inventories.



The Market Trend

No. 6 Import Quotas: Them As Has Gits

"How would you like to be legislated out of business?" Offhand, you'd say this should only happen to bootleggers, bookies, madams, and the like.

That's the question small No. 6 fuel quota-holders are asking this week. They have a case with merit, and with some interesting figures to back it up.

The trick of running the little importers of heavy fuel out of business revolves around the government's percentage system of raising or lowering the allocations. Add 10% to 100,000 b/d of quota oil, and you give a big fellow an extra 10,000 b/d. But add the same 10% to 1,000 b/d and you tack on only an extra 100 b/d. It's a system wherein the rich get richer, and the poor have the meager consolation that there must be better ways of making a living.

Now throw in the expected drop in domestic heavy fuel yields, the expected increase in demand, and a rise in imports to fill the gap. Bunker fuel yields will probably decline by 17% in the next five years. Demand will rise about 11%. The reasonable expectation, then, is that imports will have to rise by about 33% between now and 1965.

Look at the little fellow who today enjoys 10,000 b/d of heavy fuel sales. He's got a bum historical position on imports. He supplies 9,000 b/d of No. 6 from domestic sources. He has 1,000 b/d from imports.

And here's what will happen to him by 1965. He'll only be getting 7,470 b/d from at home because the yields will be falling. (They have to fall to support the price of crude.) His imports will have gone up 33%—to 1,333 b/d. But his customers' demands will be up 11%—to 11,100 b/d. So, the little fellow winds up short by about 2,300 b/d.

Now, look at the fat cat who has 100,000 b/d of heavy fuel sales, plus a good quota. The big fellow supplies 10,000 b/d from domestic production, 90,000 b/d from imports. By 1965, his domestic yield will be down to 8,300 b/d. His imports—up 33% just like the little fellow's—will jump to 120,000 b/d. And the big fellow's customers want 11% more oil, too.

So the big fellow winds up with demand of 111,000 b/d in 1965, but with a whopping supply of 128,000 b/d. That leaves the big fellow with 17,000 b/d of surplus. Do you need a diagram?

And under the present quota system, the situation can only get worse as time goes on.

Cutbacks On Fuel Oil Sales:

This quota argument is not just theoretical. This week a small-holder is notifying his customers that they will receive about 25% less residual in the third and fourth quarters of this year, and also in the first quarter of 1961.

Gasoline Is On the Mend:

The bright spot in the markets this week is gasoline in the Midwest. Prices have risen 0.5¢ a gal. along the Great Lakes Pipe Line, in Chicago, and in the Twin Cities.

Quotations for "river" gasoline have firmed, too. West Memphis sellers are asking Gulf Coast plus 0.25¢. It wasn't so very long ago that the asking price was Gulf minus 0.375¢.

The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of June 4

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U.S. Gulf Coast, cargoes
- Gasoline, 98 oct prem. 11.75-12.75
- Gasoline, 92 oct reg. 10.75-11.5
- Kerosine 9-10
- Heating oil, No. 2 8-9
- Gas oil, 48-52, d.i. 8.25-8.875
- Fuel oil, bunker "C" $2.10-2.25

Caribbean, cargoes
- Avgas, Grade 100/130 14.75
- Gasoline, 93 oct research prem 11
- Gasoline, 87 oct research reg. 10.125
- Gasoline, 80 oct research 9.375
- Gasoline, 70-72 oct motor method 9.25
- Kerosine 9.25
- Heating oil, No. 2 8
- Gas oil, 48-52 d.i. 8.25
- Fuel oil, bunker "C" $2.00

New York Harbor, barges
- Kerosine 9.8-10.3
- Heating oil, No. 2 8.8-9.3
- Fuel oil, No. 6 $2.47

Okla.-Group 3, northern shpt., bulk
- **Gasoline, 91 oct reg. 11.25†-11.75†**
- Kerosine 9.125-9.625
- Heating oil, No. 2 7.75-8.25
- **Fuel oil, No. 6 $1.60†-1.70**

Chicago, bulk
- **Gasoline, 91 oct reg. 11.5†**
- Heating oil, No. 2 8.5-10.35
- Fuel oil, No. 6 high sulfur 7.4

Los Angeles, rack
- Gasoline, 88 oct reg. 11.4-12.65
- Diesel fuel, PS 200 7.75-11.25
- Light fuel, PS 300 $2.80
- Heavy fuel, PS 400 $2.15-2.35

Natural Gasoline, Grade 26-70
- FOB Group 3 4.5
- FOB Breckenridge, Tex. 4

LP-Gas
- Propane, Oklahoma (Group 3) 3.5-4
- Propane, Baton Rouge 4.625-4.875

Pennsylvania Lubes
- Bright stock, 25 p.t. 24
- 200 vis. neutral, 25 p.t. 27

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent, 95 v.i. 26-27
- Neutral, solvent, 200-210 vis. 23-24

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i. 26
- Neutral, solvent, 200 vis. 23

Eastern Hemisphere

Singapore (Pulau Bukom) cargoes
- Avgas, grade 100/130 15.875
- Gasoline, 79 oct research 9.75
- Kerosine 10.125
- Gas oil, 48 d.i. minimum 9.5

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, (Okla.-Kan.), 36.0-36.9 $2.62-2.97
- North Dakota, 36.0-36.9 2.47-2.87
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9 2.92-3.22
  - West Texas, sweet, 36.0-36.9 3.00
  - West Texas, N.M., inter., 36.0-36.9 2.93
  - West Texas, N.M., sour, 32.0-32.9 2.71
  - East Texas, flat 3.05-3.25
  - Mirando, 28.0-28.9 2.96-3.31
- Illinois Basin, flat 3.00
- Pennsylvania Grade, Bradford dist., flat 4.70
- California, Signal Hill, 21.0-21.9 2.32†
- North Louisiana-Arkansas, 36.0-36.9 2.72-3.02
- Wyoming, sweet, 36.0-36.9 2.85-2.90
- Wyoming, sour, 32.0-32.9 2.63-2.71

Canada (flat prices, at the well)
- Pembina (Alta.) $2.38
- Leduc-Woodbend (Alta.) 2.53
- Redwater (Alta.) 2.42
- Steelman A (Sask.) 2.44
- Virden (Man.) 2.30

Venezuela (Cargoes, FOB lifting port designated)
- San Joaquin, 41.0-41.9, Puerto la Cruz $3.10
- Oficina, 35.0-35.9, Puerto la Cruz 2.78-2.80
- Tia Juana, Medium, 26.0-26.9, Amuay 2.30
- Bachaquero, flat La Salina 1.85
- Tarra, 38.0-38.9, San Lorenzo 2.83
- Lagunillas Heavy, flat, La Salina 2.07

†Differential per deg. of grav. varies

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura $1.90
- Safaniya, 27.0-27.9, Ras Tanura 1.50
- Iran, 34.0-34.9, Bandar Mashur 1.86
- Iran, 34.0-34.9, Abadan 1.81
- Iraq, 35.0-35.9, Fao 1.80
- Kuwait, 31.0-31.9, Mina-al-Ahmadi 1.67
- Qatar, 41.0-41.9, Umm Said 2.05
- Neutral Zone, Burghan, 23.5-24.4, Mina Saud 1.51
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud 1.38

Middle East, Eastern Mediterranean
- Arabia, 34.0-34.9, Sidon $2.27
- Iraq, 36.0-36.9, Tripoli, Banias 2.31

Far East, Cargoes FOB Lutong, Sarawak
- Seria Light, flat $2.57

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- **U.S. Gulf-New York, clean (USMC—25%) $2.14↓**
- U.S. Gulf-New York, dirty (USMC—20%) $2.28
- **NWI-USNH, dirty (USMC—52½%) $1.31↑**
- NWI-UK/Cont., dirty (Scale—57½%) 13/11*
- Persian Gulf-UK/Cont., dirty (Scale—67½%) 22/2*
- Persian Gulf-USNH, dirty (USMC—75%) $3.18

**Sterling*

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DEPT/Service & Equipment Companies

CRAIG M. ROWLEY has been elected president of Parkersburg-Aetna Corp., Parkersburg, W. Va., succeeding **Bernard P. McDonough**, who becomes chairman and continues as chief executive officer. Rowley was formerly vice-president of Parkersburg-Aetna, and president of the Parkersburg Rig & Reel Co. division. He joined the division in 1957; before that he was associated with Sinclair Oil Corp.

J. Manning

C. M. Rowley

JOE MANNING, formerly vice-president and general manager of Stewart & Stevenson Services, Inc., Houston, has been named executive vice-president, and **Charles Ward** succeeds him as general manager. Ward has been assistant general manager. **Dick Conolly** becomes coordinator of branches, with offices in Corpus Christi. He was formerly South Texas district manager there. **Dick Grant** is manager of the San Juan (Tex.) branch, which was formerly part of the Corpus Christi branch. **N. N. Elkins**, formerly sales manager at Corpus Christi, is now branch manager there. The Beaumont (Tex.) operation, which was formerly handled from the Houston office, has assumed full branch status, with **Howard Perkins** as manager. **L. D. Howell**, formerly Houston service manager, has transferred to the Houston sales department, and has been assigned to the petroleum industry sales division. **Harold Vaughan** is now service manager. **Tom Langham** moves up from credit manager to assistant to the general manager, with offices in Houston. **Dick Anderson**, formerly associated with C.I.T. Corp., is now credit manager.

M. DeMALLERAY has been appointed general manager of PGAC Sahara, SRL, a new French subsidiary of Pan Geo Atlas Corp., Houston, subsidiary of Chemetron Corp. The new company is now performing oil well logging, perforating, and other wire-line completion services in the Edjeleh area of the Algerian Sahara, close to the Libyan border. Headquarters for the new company are in Paris.

J. B. (Johnny) REEVES is the new Louisiana branch manager for Tyson Smith Co., with headquarters in Lafayette. He will direct and coordinate the company's sales and service activities in southern Louisiana. Reeves was formerly Lafayette branch manager for the Delta Tank division of Mid-Continent Supply Co. **C. D. McDonald** is manager at Tyson Smith's new district location at Laurel, Miss. McDonald has been associated with Halliburton Oil Well Cementing Co., Rector Well Equipment Co., and Welex Inc. Since 1955 he has managed his own business.

ROBERT E. JOHNSTON, JR., moves up to assistant sales manager of Cal-Metal Pipe Corp. of Louisiana, with offices in Baton Rouge. He was formerly southern district sales manager. **Dick A. Hall** is a new sales engineer for Cal-Metal, with headquarters in Baton Rouge. Before joining the company, he was in the research department of a pipeline company.

JAMES M. McFADDEN is the new general manager of Fluid Packed Pump Co., Los Nietos, Calif., a division of National Supply Co. McFadden, who joined Fluid Packed Pump in 1953, was formerly controller. He has also been associated with Axelson Mfg. Co., a division of U.S. Industries, Inc. In his new position, McFadden succeeds **Sidney A. Shuman**, who has transferred to Pittsburgh as assistant to the president of National Supply. Fluid Packed Pump was purchased by National Supply in 1959.

J. M. McFadden

W. C. Rye

W. C. (Red) RYE has been promoted to regional manager of the Texas Gulf Coast for Magnet Cove Barium Corp., Houston, one of the Dresser Industries. Rye, with Magcobar since 1947, was most recently regional sales manager in the Texas Gulf Coast area. In his new position, he replaces **C. H. Sydow, Jr.**, who has accepted the newly created position of assistant to the president of Kaffie Lumber Co., a Magcobar dealer in South Texas.

ROBERT J. MANNING becomes regional application engineer for the scientific and process instruments division of Beckman Instruments, Inc. In this newly created position, Manning will be in charge of the applications laboratory being established at the Chicago regional office. He will provide technical information to Midwestern users of Beckman analytical instruments and continuous stream analyzers. For the past seven years, he has been located at the main applications laboratory at Fullerton, Calif., most recently as a senior chemist.

LANSING M. HINRICHS has been promoted to assistant general man-

ager of Girdler Catalysts, Louisville, Ky., a section of the chemical products division of Chemetron Corp. He joined Girdler Catalysts a year ago and has been serving as assistant to the general manager and as patent counsel. Before that, Hinrichs was patent counsel for Chemetron's Girdler process equipment division.

HENRY C. SPEEL has joined Universal Oil Products Co., Des Plaines, Ill., with responsibility for market research activities of the chemical products development department. He was formerly a partner in Schwarz, Speel & Associates, a chemical consulting firm. Before becoming a consultant, Speel was director of development for Wyandotte Chemicals Corp.

H. C. Speel

A. H. Quay

A. H. QUAY has joined Hardy-Griffin Engineering Corp., a division of Atlas Pipe Inc., as director of technical services. Since 1948 he has been a vice-president of Tuboscope Co., Houston, and before that was associated with Jones & Laughlin Steel Corp. Quay will be located in Houston when he returns from Europe, where he and Joe Safford, Hardy-Griffin vice-president, are checking on the company licensees.

WILLIAM D. KOHLINS moves up to vice-president and general manager of the Buflovak Equipment division of Blaw-Knox Co., at Buffalo, N. Y. Kohlins, who joined Buflovak in 1946 as a district sales manager, has been manager of that division since 1956.

R. D. OLIVER is the division manager in charge of the New Orleans office recently set up by Drilling & Service, Inc., and **James Cowan** is Oklahoma division manager at the new office in Oklahoma City. Oliver has been with D&S for the past several years, and Cowan has been with the company for the past ten years, serving most recently in the West Texas division. Oliver's new division covers the Louisiana-Mississippi and Gulf Coast areas, and Cowan's the Oklahoma-Kansas area.

CHARLES F. GALLAGHER has been named manager of the north Louisiana division of Schlumberger Well Surveying Corp., with offices in Shreveport, La. Gallagher, who joined the company in 1946, was most recently Pacific Coast division manager in Los Angeles. **C. G. Giffin** is Schlumberger's new location manager at Columbia, Miss., and **H. C. Robinson** is new location manager at Beaumont, Tex. Giffin was formerly sales engineer at the north Louisiana division, and Robinson was a sales engineer at Houston. **G. M. Lehnertz**, formerly sales engineer at Tyler, Tex., was promoted to senior sales engineer there. **J. A. Gilreath**, senior sales engineer for the north Louisiana division, transfers to the south Louisiana division, at New Orleans. **D. D. Fitzgerald** is the new sales engineer at Houston, and **F. D. Whitman** is the sales engineer at Wharton, Tex. Fitzgerald was formerly field engineer-special services in the Gulf Coast division, and Whitman was general field engineer at Wharton. **L. V. Turner**, general field engineer at Mt. Carmel, Ill., was promoted to sales engineer there.

C. F. Gallagher

M. H. Jackson

M. H. JACKSON is president and chief executive officer of the newly organized M. H. Jackson Pipeline Supply Co., Tulsa. **R. B. Wallace** will be responsible for product sales, new product acquisition, and production, and **Woodrow Cole** is the treasurer and office manager.

CARDWELL MFG. CO., Wichita, Kan., and Houston, has appointed Rives, Dyke & Co., Houston, as its advertising agency. **J. T. Tucker**, Cardwell's general manager of sales, will coordinate the advertising program.

WARREN MAGEE has been named district manager of a new service branch opened at Ruston, La., by Houston Oil Field Material Co. Magee was most recently Homco's residence manager at Shreveport, La. **L. B. Dennig** is district fishing and cutting representative at the new branch. He was fishing tool supervisor and manager for Brown Oil Tools, Inc., from 1945 to 1959, when he joined Homco. **Carrol L. Cole** is electrical well service supervisor at the new service branch, and **W. W. Parks** is warehouseman.

B. F. DUGGER has been appointed manufacturer's representative for Herb J. Hawthorne, Inc., with headquarters in Midland, Tex. Dugger, formerly with Seismograph Service Corp., will be in charge of the West Texas area.

ANTHONY AMANTE becomes export sales manager for the instrumentation product group in the geosciences and instrumentation division of Texas Instruments Inc., Houston. After joining TI in 1954, Amante established a regional marketing office for geophysical instrumentation in Canada. He was most recently petroleum instrumentation sales manager for the product group.

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Well, Were We Outsmarted Again?

THE AMERICAN LEGION'S ENDORSEMENT of the proposed national energy study—which the coal industry has been seeking avidly and with a tenacity of purpose that puts the oil industry to shame—raises several pertinent questions, viz:

Where were the oil industry's watchdogs or representatives when the Legion's National Executive Committee authorized this resolution last month on behalf of the entire membership of 3-million service veterans, including thousands of oil men?

Can it be said that this is another example of oil industry negligence or indifference? Of further loss of ground by default?

Equally important, can it be said that the resolution truly reflects the sentiments of the Legion's entire membership? Or is it more likely that the Executive Committee unwittingly became a patsy for the coal people by adopting a resolution the implications of which were not understood.

PRESTIGE RESOLUTIONS for or against any particular issue usually are a dime a dozen in blasé Washington. But some, because they represent substantial groups which can exert considerable pressure in their own right, do influence many congressmen and laymen.

The Legion resolution is in that category. Its adoption by the National Executive Committee is another coup for the coal groups that have outgunned the oil industry at every turn on an energy issue that eventually may have telling effect on oil's ability to compete in an open market.

Getting back to the questions, however, it is our understanding that the Legion endorsement was promoted by a member who is a registered lobbyist for the coal industry. This makes us wonder whether his "buddies" knew that his interest in the resolution was more than academic. And whether the Legion itself favors regulated competition or free enterprise as a basic economic philosophy.

Coal lost no time in exploiting the resolution. Barely a week after it was adopted, it was inserted into the official records of the U.S. Senate. This to the dismay of oil's Washington representatives who have been having a tough time countering the steady flow of anti-oil and pro-study propaganda.

IT STRIKES US that something can be salvaged out of this situation yet, however. If oil men who are also members of the Legion are willing to stir up enough sentiment in their state organizations, the effectiveness of the resolution can be erased by an avalanche of protest votes at the organization's national convention this fall.

Let's hope this can be done, for it isn't hard to recall the old nursery rhyme warning: "For want of a nail, a shoe was lost. . ."

Effective May 31st, the name of Enjay Company, Inc. changed to Enjay Chemical Company, a division of Humble Oil & Refining Company. Enjay Chemical Company will continue to serve modern industry with a complete line of petrochemicals, including Butyl rubber, solvents, resins, plastics, and additive compounds for fuels and lubricants. As a division of Humble Oil & Refining Company, the company is determined to become even more important in the growing petrochemical field.

As the pioneer in petrochemicals, and a leader in the marketing of chemical raw materials, it has always been the policy of Enjay to help customers develop new products and improve existing ones. Enjay now has ten sales offices – including the new one recently added at Houston, Texas – standing ready to offer immediate handling of product orders and requests for technical service. Strategically located distribution points also offer benefits of prompt deliveries.

Enjay Chemical Company looks forward to giving its thousands of customers continued and unequalled technical service . . . backed by one of the world's largest research organizations.

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NOW IN PRODUCTION AT HUGHES

A new kind of Hughes bit – the *self-lubricating* sealed bearing bit – is rolling off the production line. It represents a major design breakthrough in an era of outstanding rock bit research achievements.

Two sizes are available (7⅞" and 8¾") in two types (RG-1XJ and RG-7XJ). By year end, sizes in all existing R-Series types will be expanded to include 7⅞" through 12¼".

Development is continuing in the use of *self-lubricating* sealed bearings in other bit types and in smaller R-Series sizes.

Field reports indicate the *self-lubricating* sealed bearing bits are living up to and frequently exceeding performance expectations. The best results are being obtained where Hughes recommended weights and rpm's are being followed.

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